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Influenza a Probable Cause of Fever of Undetermined Nature in Southern States.

Fevers of an undetermined nature were reported during April and May at various points from Norfolk to Louisiana. An examination of the records and reports of the physicians who have treated these cases leads to the belief that these fevers were mainly influenza of mild type.

It is possible, however, that all cases reported were not of the same disease, and in one locality in Louisiana dengue may have occurred.

North Carolina Enforcing Law Requiring Morbidity Reports.

A determined effort is being made by the State Board of Health of North Carolina to secure the reporting of cases of communicable disease by physicians throughout the State and the prompt transmission of the reports to the State Board of Health.

During the week ended June 8, 1918, two physicians were prosecuted and fined for failure to report cases of notifiable diseases as required by the State law. A county quarantine officer was also prosecuted for failure to perform the duties of his office. He pleaded guilty, and the case was dismissed upon his promise to comply with the law in the future.

Some Qualitative and Quantitative Tests for Arsphenamine (3, 3'-Diamino-4, 4'-Dioxy-Arsenobenzene Dihydrochloride) and Neo-Arsphenamine (Sodium-3, 3'-Diamino-4, 4'-Dihydroxy-Arsenobenzene-Methanal-Sulphoxalate).

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Previous to the year 1914, all of the arsphenamine (salvarsan) and neo-arsphenamine (neosalvarsan) on the market was manufactured by a single German firm under the supervision of Paul Ehrlich, one of the patentees. Naturally the products were fairly uniform in their composition and properties.

As a result of the present war in Europe, the protection afforded these products in the allied countries, through licenses or patents, has been temporarily withdrawn, and they are now being manufactured in England, France, Japan, Canada, and the United States.

Examinations made by the authors, as well as evidence presented by clinicians (Martin and others, 1916), have revealed the fact that the products of different manufacturers appearing on the market in this country are not all uniform with respect to either their chemical or their physiological properties. Even the last of the German supplies received are stated to be more toxic than the products obtained before the beginning of hostilities in Europe (Ormsby and Mitchell, 1916).

Tentative standards for these preparations (arsphenamine and neo-arsphenamine) have been adopted by the Federal Trade Commission on the recommendation of the United States Public Health Service, but these do not appear to meet all exigencies. It is for this reason and for the purpose of better defining the properties of good preparations that the following qualitative and quantitative tests have been worked out and compiled.

Arsphenamine—Physical Properties.

Appearance: Arsphenamine is a pale yellow, microcrystalline, hygroscopic powder very unstable in the air. When properly dried, it is free from lumps.

Odor: The pure product is odorless.¹

Taste: It has a sour astringent taste.

Solubility: Arsphenamine is soluble in water, 1 to 5 parts, methyl alcohol, 1 to 3 parts, and ethyl alcohol, 1 to 12 parts (Wilcox and Webster, 1916). It is readily soluble in ethylene glycol and glycerin, but only slightly soluble in glacial acetic acid, acetone, ether and concentrated hydrochloric acid (Ehrlich and Bertheim, 1912).

The aqueous solution is greenish-yellow² in color and reacts strongly acid to litmus.

Moisture content: When dried to constant weight in an atmosphere of dry hydrogen at 105° C., arsphenamine should lose not more than 7.6 per cent of its weight, which corresponds to the loss of 2 molecules of water of crystallization (Gaebel, 1911).

Arsphenamine—Chemical Properties.

Behavior toward acids: Dilute mineral acids, with the exception of dilute sulphuric acid, have no noticeable effect on aqueous solu-

¹ Commercial samples frequently have the odor of ether due to the incomplete removal of this solvent which is used in precipitating and washing the product.

² The brownish-yellow or brown color, sometimes observed in solutions prepared from commercial samples, is thought to be an indication of the presence of oxidation products or other impurities.

tions of arsphenamine¹ (distinction from *neo-arsphenamine*, which yields a precipitate with all dilute mineral acids).

The addition of dilute sulphuric acid, however, produces a yellowish-white precipitate.²

The addition of any of the concentrated mineral acids, with the exception of phosphoric, to an aqueous solution of arsphenamine causes the formation of a precipitate (distinction from *neo-arsphenamine*, which is precipitated by phosphoric acid).

In the case of concentrated nitric acid, the precipitate dissolves on the addition of an excess of acid yielding a red solution.

Acetic acid (36 per cent) produces no noticeable effect when added to an aqueous solution of arsphenamine (distinction from *neo-arsphenamine*, which yields an orange-yellow precipitate on heating the liquid).

Carbon dioxide immediately precipitates arsphenamine from aqueous solutions.

Behavior toward alkalis: The addition of sodium hydroxide test solution to an aqueous solution of arsphenamine produces a precipitate which dissolves in an excess of the reagent.³

Solutions of barium and calcium hydroxides also yield precipitates.

The alkali carbonates produce precipitates which are not soluble in an excess of the reagent.

Behavior toward oxidizing agents: The addition of chlorine or bromine water, ferric chloride, or chromic acid to an aqueous solution of arsphenamine causes the liquid to become red or brownish red in color.

Behavior toward general alkaloidal reagents: An aqueous solution of arsphenamine slowly reduces gold and platinum chloride test solutions in the cold, yielding characteristic precipitates. Reduction is hastened by heating.

Mercuric chloride test solution produces a light-yellow colored precipitate which becomes white on heating.

Mayer's reagent gives a heavy, orange-yellow precipitate.

Picric acid test solution produces a copious yellow precipitate (distinction from *neo-arsphenamine*, aqueous solutions of which become only slightly turbid on the addition of picric acid test solution).

¹ For carrying out the above tests, or those which follow, a 1 in 1,000 aqueous solution of the product was used, unless otherwise mentioned.

All of the test solutions employed were made according to the U. S. P. IX, unless differently stated.

² Precipitation also occurs on the addition of sulphates.

³ Precipitation first begins when 1 mol of sodium hydroxide has been added for each mol of arsphenamine in solution. If the addition of sodium hydroxide is continued until precipitation is complete, a further addition of alkali will cause the precipitate to go into solution as the phenolate (Ehrlich and Berthelm, 1912).

Phosphotungstic acid test solution ¹ produces a dirty gray colored precipitate, insoluble in an excess of the reagent, but which dissolves upon the addition of sodium carbonate, or ammonia water, yielding a deep blue colored solution.

Phosphomolybdic acid test solution gives a similar color reaction if the liquid is made acid with hydrochloric acid after the addition of the alkali (Gaebel, 1911b).

Behavior toward other reagents: The addition of a freshly prepared solution of ferric chloride and potassium ferricyanide to an aqueous solution of arsphenamine immediately produces a copious precipitate of Prussian blue.

Nessler's reagent is instantly reduced.

The addition of silver nitrate test solution first causes a yellow color to appear, then the formation of a gelatinous precipitate which changes to a black powder on heating. The black precipitate is soluble in dilute nitric acid.

Millon's reagent gives a copious yellow precipitate.

If a drop of copper sulphate solution (4 in 100) be added to 5 cubic centimeters of an aqueous solution of salvarsan (1 in 1,000), to which has been added 0.5 cubic centimeter of hydrogen dioxide solution and 0.5 cubic centimeter of ammonia water, an intense bluish-green color will develop. If the blue solution is poured into alcohol (90 per cent), a blue precipitate, which can be separated by centrifugation, will be obtained (Denigès and Labat, 1911).

To 2 or 3 cubic centimeters of an aqueous solution of arsphenamine (1 in 1,000) add 3 or 4 drops of dilute hydrochloric acid (an amount sufficient to cause the disappearance of most of the yellow color), cool the solution by holding the test tube in ice water and add 3 or 4 drops of a solution of sodium nitrite (5 in 1,000). This results in the formation of a diazo compound having a greenish-yellow fluorescence (distinction from *neo-arsphenamine*, which forms a brown solution).

If a small portion of the solution containing the diazo compound be added drop by drop to an alcoholic solution of α -naphthylamine hydrochloride, a beautiful violet color will develop (Gaebel, 1911b).

With an alcoholic solution of β -naphthylamine hydrochloride, a light-brown color develops (distinction from *atoxyl*, which yields a red-colored solution, Wilcox and Webster, 1916).

If some of the diazotized solution be added to a freshly prepared solution of resorcinol (1 part in 20 parts of a 10 per cent sodium hydroxide solution), a deep red color will develop (Abelin, 1911).

The direct addition of Ehrlich and Pauly's (1904) diazo reagent to an aqueous solution of arsphenamine produces a brownish-red color.

¹ The phosphotungstic acid solution used in the above test was prepared according to the method of Folin and Denis (1912).

Tests for arsenic: A positive test for arsenic is obtained by applying the Reinsch test.

The Marsh test gives positive results if the arsphenamine is first decomposed by oxidation with nitric and sulphuric acids and the resulting solution reduced by the addition of potassium metabisulphite (Wilcox and Webster, 1916).

Under the foregoing conditions, the Gutzeit's test also gives positive results.

The biological test with *Penicillium brevicaulis*, carried out according to the method of Abel and Buttenberg, gives the characteristic garlic odor (Gaebel, 1911b).

Tests for impurities: An aqueous solution of arsphenamine yields no precipitate with hydrogen sulphide, even after the addition of hydrochloric acid and warming (absence of *inorganic arsenic compounds*).

If 4 cubic centimeters of sodium acetate test solution are added to 5 cubic centimeters of an aqueous solution of arsphenamine (1 in 10), the mixture heated for a few minutes and the precipitate removed by filtration, the filtrate should not yield a precipitate within 12 hours on being made alkaline with 3 cubic centimeters of ammonia water and the addition of magnesia mixture (absence of *inorganic arsenic compounds*, Moeller and Thoms, 1914).

If about 0.1 gram of arsphenamine be placed in a test tube, a small quantity of zinc dust and some dilute hydrochloric acid added,¹ and the mouth of the tube covered with a piece of filter paper moistened with a 5 per cent solution of cadmium chloride, the paper should not be stained yellow within a few minutes (absence of *sulphur compounds*).²

Dissolve exactly 1.0 gram of arsphenamine in 10 cubic centimeters of methyl alcohol contained in a 100 cubic centimeter volumetric flask. Dilute the solution with 75 cubic centimeters of distilled water, add 1.5 grams of precipitated calcium carbonate, and shake to precipitate the salvarsan base. Dilute with distilled water to exactly 100 cubic centimeters and filter. To exactly 50 cubic centimeters of the filtrate add 75 cubic centimeters of water, 5 cubic centimeters of N/1 hydrochloric acid volumetric solution, and titrate with N/20 iodine volumetric solution. The amount of iodine volumetric solution consumed, expressed in cubic centimeters, represents the percentage of *amino-oxy-phenyl-arsenoxide* present in the material. The

¹ A drop of platonic chloride test solution may be added to start the reaction.

² Arsinsulphide and Arsinsesquisulphide have been suggested as possible impurities in arsphenamine (Schamberg, Kolmer, and Raizies, 1917).

Most of the commercial samples of arsphenamine examined in this laboratory gave a positive test for sulphur by the method described above.

amount of the oxide present in good products varies from 0.5 to 0.8 per cent ¹ (Ehrlich and Bertheim, 1912).

Neo-Arsphenamine—Physical Properties.

Appearance: Neo-arsphenamine is an orange-yellow, microcrystalline powder which changes rapidly in the air, becoming dark brown in color.

Odor: The pure preparation is odorless.²

Taste: It has a taste somewhat resembling that of garlic.³

Solubility: Neo-arsphenamine is readily soluble in water or glycerin, but only slightly soluble in methyl alcohol, ethyl alcohol, acetone, and ether.

The aqueous solution, when freshly prepared, is yellow in color and reacts neutral toward litmus. The solution rapidly becomes brown on exposure to the air.

Neo-Arsphenamine—Chemical Properties.

Behavior toward acids: Dilute as well as concentrated mineral acids yield precipitates with an aqueous solution of neo-arsphenamine. Precipitation does not occur immediately, but is first noticeable after several minutes (distinction from *arsphenamine*, which is not precipitated by dilute mineral acids or concentrated phosphoric acid, but yields a precipitate immediately with concentrated hydrochloric, sulphuric, and nitric acids).

The addition of acetic acid (36 per cent) to an aqueous solution of neo-arsphenamine yields a yellow colored precipitate when the liquid is heated (distinction from *arsphenamine*, which is not precipitated).

Behavior toward alkalis: The addition of sodium hydroxide test solution to an aqueous solution of neo-arsphenamine produces no noticeable effect (distinction from *arsphenamine*, a solution of which yields a precipitate).

Solutions of barium and calcium hydroxides yield turbid solutions or faint precipitates.

Solutions of the alkali carbonates do not produce precipitates (distinction from *arsphenamine*).

Behavior toward oxidizing agents: Similar to the reactions with *arsphenamine*.

Behavior toward general alkaloidal reagents: Similar to the reactions with *arsphenamine*, except that the precipitate with picric acid test solution develops slowly and is relatively small in amount.

¹ The amount of oxide found in the commercial samples examined in this laboratory varied from 0.5 to 2.8 per cent.

² Commercial samples sometimes have an odor of garlic, due apparently to slight decomposition.

³ Commercial samples frequently have a saline taste, probably due to the presence of sodium chloride which is said to be used as a diluent for products high in arsenic content.

Mayer's reagent does not yield a precipitate until the solution has been made acid with dilute hydrochloric acid (distinction from a solution of *arsphenamine*, which yields a precipitate on the direct addition of the reagent).

Behavior toward other reagents: The behavior of an aqueous solution of neo-arsphenamine toward a freshly prepared solution of ferric chloride and potassium ferricyanide, silver nitrate test, and Nessler's reagent is similar to that described under *arsphenamine*.

Millon's reagent yields a copious brown-colored precipitate.

If 5 cubic centimeters of dilute hydrochloric acid be added to 10 cubic centimeters of an aqueous solution of neo-arsphenamine (1 in 100) and the mixture heated, the irritating odor of sulphur dioxide will be developed (New and Nonofficial Remedies, 1917).

If about 0.1 gram of neo-arsphenamine be placed in a test tube, a small quantity of zinc dust and some dilute hydrochloric acid added and the mouth of the tube covered with a piece of filter paper moistened with a 5 per cent solution of cadmium chloride, the paper will be stained yellow within a few minutes (distinction from *arsphenamine*).

If 5 cubic centimeters of an aqueous solution of neo-arsphenamine be boiled with 1 cubic centimeter of dilute hydrochloric acid, a violet color will develop on the addition of a few drops of Schiff's reagent ¹ (distinction from *arsphenamine*, Denigès and Labat, 1913).

The diazotized solution ² of neo-arsphenamine gives color reactions with α -naphthylamine hydrochloride and resorcinol similar to those described under *arsphenamine*. With β -naphthylamine hydrochloride, a brownish-red color develops.

Tests for arsenic: The reactions are similar to those noted under *arsphenamine*.

Tests for impurities: An aqueous solution of neo-arsphenamine ³ yields no precipitate on passing in hydrogen sulphide gas (absence of *inorganic arsenic compounds*).

If 5 cubic centimeters of acetic acid (36 per cent) be added to 5 cubic centimeters of an aqueous solution of neo-arsphenamine, the mixture heated a few minutes and the precipitate removed by filtration, the filtrate should not yield a precipitate within 12 hours on the addition of an excess of ammonia water and some magnesia mixture (absence of *inorganic arsenic compounds*).

¹ By boiling with hydrochloric acid, the methylene group of the neo-arsphenamine is detached and oxidized to formic aldehyde.

² In diazotizing the solution, add the sodium nitrite solution first, then the hydrochloric acid in order to avoid precipitation.

³ Hydrochloric acid should not be added, as acids produce a precipitate.

Arsphenamine and Neo-Arsphenamine—Quantitative Determination of Arsenic.

The methods for the quantitative determination of arsenic in organic compounds, described in the literature, are both numerous and varied in their manner of execution. Most of them, however, are more or less complicated and are, therefore, not suitable for use in routine work where the number of samples of material to be analyzed is large. They involve, for example, such processes as fusion (methods of La Coste and Michaelis, 1880; of Pringsheim, 1904; of Little, Cahen, and Morgan, 1909; and of St. Warunis, 1912); or distillation (methods of Schneider and Fyfe, 1906; of Jannasch and Seidel, 1910; and of Bohrisch and Kürschner, 1911); and the subsequent estimation of the arsenic by gravimetric or volumetric methods.

Among the simpler and more practical procedures, which have received special mention in connection with the estimation of the arsenic in arsphenamine or neo-arsphenamine, are the methods of Gaebel (1911c) and Denigès and Labat (1911), in which an aqueous solution of the material is titrated directly with iodine or potassium permanganate volumetric solution. In this class are, likewise, the methods of Norton and Koch (1905), Lehmann (1912), and Ewins (1916). In these methods the arsenic is, first, either oxidized or reduced by digesting the material with suitable reagents and then estimated by titration in one of the usual ways.

For the purpose of determining which one of these simpler methods is the most accurate, and can be depended upon to give the best results in the hands of different operators, a few preliminary analyses were carried out. The results obtained indicated that the methods of Gaebel, Ewins, and Lehmann offered the greatest possibilities for fulfilling these conditions.¹ A large number of samples of both arsphenamine and neo-arsphenamine were, therefore, subjected to analysis by these methods. For comparison, a number of gravimetric determinations were also made. Detailed descriptions of these methods, together with the data obtained in the analyses, follow:

Gaebel's titration method: Weigh out accurately about 0.2 gram of arsphenamine and dissolve it in 100 cubic centimeters of distilled water contained in an Erlenmeyer flask. Add 1 cubic centimeter of starch test solution and titrate with N/20 iodine volumetric solution to a permanent blue color.² One cubic centimeter of N/20 iodine volumetric solution is equivalent to 0.001875 gram of arsenic.

¹ The method of Denigès and Labat was eliminated from the field of possibilities, as the end point obtained in the titration is too indefinite to yield accurate results in the hands of different analysts.

The Ewins method was given preference over that of Norton and Koch, as it is essentially an improved modification of the latter.

² As the greenish-yellow color of the arsphenamine solution becomes less and less pronounced and finally vanishes on the addition of iodine solution, the titration may also be carried out without the use of an indicator.

Ewins's method: Weigh out accurately 0.1 to 0.2 gram of the substance and transfer it to a long-necked Kjeldahl flask of 300 cubic centimeters capacity. Add 10 grams of potassium sulphate and 0.2 to 0.3 gram of starch (after a little experience the amount can be sufficiently accurately estimated and need not be weighed). Wash in any solid adhering to the neck of the flask with a little water. Cautiously add 20 cubic centimeters of concentrated sulphuric acid and heat the mixture on wire gauze over a Bunsen flame. As soon as the contents of the flask begin to froth, lower the flame somewhat until the frothing diminishes, which generally takes place within 10 to 15 minutes from the commencement of heating. Again turn on the flame and continue heating until the liquid becomes colorless or of a very pale yellow tint. Shake the flask once or twice during digestion, in order to wash down any material adhering to the walls. The time required for the complete oxidation of the material is usually about 4 hours.

After the liquid has cooled, transfer it quantitatively to an Erlenmeyer flask of 350 cubic centimeters capacity and make it just distinctly alkaline by the addition of sodium hydroxide solution (10 to 12N). A small piece of litmus paper added to the contents of the flask serves as the most convenient indicator. Cool the flask and its contents to about 30° to 40° C. and add concentrated sulphuric acid, drop by drop, until the solution is again distinctly acid (care should be taken that no drops of sodium hydroxide solution remain on the inside of the neck of the flask, which should be well washed down with water, or the flask may be stoppered and shaken). Now add from a burette a saturated solution of sodium hydrogen carbonate, until the solution becomes distinctly alkaline and an excess of 5 to 10 cubic centimeters of the reagent is present.

To this solution, add 2 cubic centimeters of a 1 per cent solution of starch, and titrate the arsenious acid present with N/20 iodine volumetric solution. Toward the end of the reaction, the solution usually develops a reddish-violet tint, which fades on standing. The end-point, however, is reached when the solution acquires the characteristic deep blue color given by free iodine in the presence of starch. From the amount of iodine consumed, the percentage of arsenic present is easily calculated. One cubic centimeter of N/20 iodine volumetric solution is equivalent to 0.001875 gram of arsenic.

Gravimetric method: Weigh out accurately about 0.2 gram of the product and transfer it to a Kjeldahl flask of 300 cubic centimeters capacity. Add 1.5 grams of a mixture of equal parts of sodium nitrate and potassium nitrate, 200 cubic centimeters of distilled water and 5 cubic centimeters of concentrated sulphuric acid. Heat the mixture slowly under a hood to allow the escape of the nitric acid fumes. Add a small quantity of concentrated or fuming nitric

acid from time to time, until oxidation is completed, which is generally indicated by the disappearance of the yellow color.¹ Continue the digestion until the volume of the liquid has been reduced to about 15 cubic centimeters,² cool, add 100 cubic centimeters of distilled water and again concentrate to about 15 cubic centimeters, in order to remove the last trace of nitric acid. If the product has been completely oxidized and all traces of nitric acid have been removed, the liquid will be water clear at this point. After cooling, cautiously neutralize the liquid with strong ammonia water and transfer it to a 300 cubic centimeter beaker, using a small quantity of distilled water for rinsing the flask.

To the solution, which will now contain all of the arsenic in the form of arsenate, add 10 to 20 cubic centimeters of 2N ammonium chloride solution for every 50 cubic centimeters of the liquid, then 20 cubic centimeters of magnesia mixture, drop by drop, with constant stirring. Finally add an amount of strong ammonia water, equal to one-third the volume of the liquid, and 2 cubic centimeters of alcohol. After allowing the mixture to stand for 12 hours, collect the precipitate, with the aid of a suction pump, in a Gooch crucible, which has been prepared as follows:

Cover the bottom of the crucible with a thin layer of asbestos, which has previously been washed with ammonia water (2.5 per cent), and dry in an oven at 110° C. Remove the crucible from the oven and place it in a larger porcelain crucible, fitted with an asbestos ring so that the sides and bottom of the two will not touch, put on the cover and heat slowly over an open flame until there is a light red glow on the outer crucible (Treadwell-Hall, 1905). Remove the Gooch crucible, cool in a desiccator and weigh.

After the precipitate has been collected, dry the crucible as described above, but add a crystal of ammonium nitrate before heating over the open flame. Finally cool the crucible and weigh. The weight of the precipitate multiplied by 0.48275 represents the amount of arsenic present in the sample taken for analysis.

Lehmann's method: Weigh out accurately about 0.2 gram of the substance and transfer to a 200 cubic centimeter Erlenmeyer flask.³ Add 1 gram of finely powdered potassium permanganate and 5 cubic centimeters of dilute sulphuric acid and allow the mixture to stand for about 10 minutes. Rotate the flask frequently during this time to insure the complete mixing of the materials. Now add 10 cubic centimeters of concentrated sulphuric acid, in portions of about 2 cubic centimeters, rotating the flask after each addition.

¹ Sometimes the liquid may still have a pale yellow tint.

² Concentration should be effected in such a manner that the formation of sulphuric acid fumes in large quantities will be avoided.

³ An Erlenmeyer flask, fitted with a glass stopper, is most suitable for this purpose.

When the reaction has ceased, add a quantity (about 5 to 7 cubic centimeters) of hydrogen dioxide solution sufficient to dissolve all of the brown precipitate. Toward the end, the hydrogen dioxide solution should be added, drop by drop, to avoid any great excess. Dilute the liquid with 25 cubic centimeters of distilled water and boil over wire gauze for about 10 minutes, or until the excess of hydrogen dioxide has been completely removed.¹

After dilution with 50 cubic centimeters more of distilled water, cool the solution and add 2.5 grams of potassium iodide. Stopper the flask tightly and allow it to stand in a cool place for 1 hour. Finally titrate the liberated iodine with N/10 sodium thiosulphate volumetric solution without the use of starch test solution as an indicator.² One cubic centimeter of N/10 sodium thiosulphate solution is equivalent to 0.003748 gram of arsenic.

TABLE 1.—Arsenic content of commercial samples of arspenamine.

Manufacturer.	Name of product.	Lot number.	Per cent of arsenic.			
			Direct titration with N/20 iodine V. S.	Ewins's method.	Gravimetric method.	Lehmann's method.
Dermatological Laboratories, Philadelphia, Pa.	Arsenobenzol.....	630	.....	30.05	.....	.....
	Do.....	652	.....	29.61	.....	.....
	Do.....	721	.....	29.11	.....	.....
	Do.....	740	29.92	30.33	31.58	31.32
	Do.....	750	29.24	.....	31.16	31.34
	Do.....	755	29.34	29.26	31.13	30.94
	Do.....	757	29.43	29.90	.....	.....
	Do.....	767	29.53	29.20	.....	.....
	Do.....	788	29.38	29.27	.....	.....
	Do.....	791	29.19	29.26	.....	.....
	Do.....	799	29.29	29.60	31.52	31.40
	Do.....	800	29.95	29.59	30.87	30.46
	Do.....	826	.....	29.20	.....	.....
	Do.....	841	29.28	29.19	31.54	31.38
	Do.....	845	29.07	29.30	.....	.....
	Do.....	862	29.52	29.91	.....	.....
	Do.....	873	29.53	29.71	31.38	31.22
	Do.....	875	.....	29.74	.....	.....
	Do.....	886	29.53	30.22	31.46	31.18
	Do.....	890	29.23	.....	31.35	31.22
	Do.....	900	29.42	29.70	31.07	30.94
	Do.....	914	.....	28.71	.....	.....
	Do.....	928	29.56	30.06	31.17	31.03
	Do.....	952	29.62	30.33	31.07	31.03
	Do.....	954	.....	31.24	.....	.....
	Do.....	966	.....	29.45	.....	.....
	Do.....	973	.....	30.51	.....	.....
	Do.....	980	.....	.....	.....	30.46
	Do.....	.....	.....	.....	.....	30.52
	Do.....	1008	.....	.....	.....	30.56
	Do.....	.....	.....	.....	.....	30.63
	Do.....	1013	.....	.....	.....	30.44
	Do.....	.....	.....	.....	.....	30.72
	Do.....	1017	.....	.....	.....	31.16
	Do.....	.....	.....	.....	.....	31.00

¹ Experience has shown that it is practically impossible to remove all of the hydrogen dioxide by boiling, unless the solution be evaporated to a very small volume, when it is very liable to become colored brown, due to the further action of the hot concentrated acid. In the analyses made by the authors the last trace of hydrogen dioxide was removed by the addition of a drop or two of permanganate solution (1 per cent) and the resulting pink color removed by the addition of oxalic acid solution in very slight excess.

² A blank test should be carried out under exactly the same conditions and the proper corrections made. The blank tests usually consume from 0.1 to 0.3 cubic centimeter of the iodine solution.

TABLE 1.—Arsenic content of commercial samples of arsphenamine—Continued.

Manufacturer.	Name of product.	Lot number.	Per cent of arsenic.			
			Direct titration with N/20 iodine V. S.	Ewins's method.	Gravimetric method.	Lehmann's method.
Dermatological Research Laboratories, Philadelphia, Pa.	Arsenobenzol.....	1020				31.27 31.08
	Do.....do.....	1048				30.38 30.40 30.41 30.51
	Do.....do.....	1062				30.15 30.25 30.51 30.57
	Do.....do.....	1072				30.63 30.49 30.82 30.73
	Do.....do.....	1077				30.53
	Do.....do.....	1095				
	Do.....do.....	1105				
	Do.....do.....	1125				
	Do.....do.....	1135				
	Do.....do.....	1142				
	Farbwerke-Hoechst Co., at H. A. Metz Laboratories (Inc.), New York.	BDB	29.23	31.10		
	Do.....do.....	BFB	30.69	31.30		
	Do.....do.....	RJR	29.02	31.38		
Do.....do.....	Do.....do.....	BLR	29.40			
	Do.....do.....	BMR	29.88	29.98		
	Do.....do.....	BUR	29.34	30.88		
	Do.....do.....	BVR	29.60	31.44		
	Do.....do.....	BXR	29.43	30.35		
	Do.....do.....	DBR	28.87	29.67	31.16	31.22
	Do.....do.....	DFB	29.97	31.30	31.47	31.32
	Do.....do.....	DHR	30.05	30.76		
	Do.....do.....	DHR	30.24	31.22		
	Do.....do.....	DJR	29.60	30.76		
	Do.....do.....	DLR	30.61	31.05		
	Do.....do.....	DMR	29.07	31.95		
	Do.....do.....	DMR	29.62	30.72		31.50
	Do.....do.....	DUB	29.16	29.57		
	Do.....do.....	FBV	29.52	30.31		
	Do.....do.....	FBV	30.74	31.00	31.85	31.50
	Do.....do.....	HBR		31.54		
	Do.....do.....	JBR		31.64	31.65	31.28
	Do.....do.....	LBR		30.43		
	Do.....do.....				31.24	31.20 32.24 32.24 32.06 32.24 32.05 32.19
	Do.....do.....	MBB				31.29 31.27 30.92 30.85 30.63 30.72 31.53 31.53 31.64 31.58 30.82 30.91 30.94 31.36 31.58 32.15 31.97 30.74
	Do.....do.....	UBB				
	Do.....do.....	XBB				
	Do.....do.....	I75			31.15	
	Do.....do.....	I76			31.15	
	Do.....do.....	I77			31.80	
	Do.....do.....	I78				
	Do.....do.....	I79			31.56	
	Do.....do.....	I81				
	Do.....do.....	I82				
Les Etablissements Poulenc Frères, Paris.	Arsenotenzol "Billon."	D632		29.53		
	The Diarsenol Co. (Ltd.), Toronto, Canada.	B87520	28.89	29.52		
Do.....do.....	Do.....do.....	B87521	29.05			30.18 30.73 31.94 32.26
	Do.....do.....	I275	29.86	31.25		
Fankyo & Co., Tokyo.	Arsaminol.....	68	29.89	31.20		
	Do.....do.....	54		21.04		
Arsemin Co., Tokyo.	Neo Neo Arsemin (Salvarsan sod.)	DEIA				
	Do.....do.....	DEIS		20.73	20.47	20.50

TABLE 2.—Arsenic content of commercial samples of neo-arsphenamine.

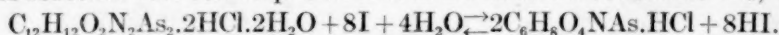
Manufacturer.	Name of product.	Lot number.	Per cent of arsenic.		
			Ewins's method.	Gravimetric method.	Lehmann's method.
Farbwerke vorm. Meister Lucius & Bruning, Hoechst a. M.	Neosalvarsan.....	HV	18.38	19.82	20.12
Les Etablissements Poulenc Frères, Paris.	Novarsenobenzol "Billon"	B1539	17.80	20.34	19.93
Do.....	do.....	B2126	18.98		20.21
Do.....	do.....	B2137	18.06	19.96	19.74
Do.....	do.....	8750	18.19	20.35	19.93
Do.....	do.....	9051	18.24	20.05	20.12
Anglo-French Drug Co. (Ltd.), London.	Ampsals.....		18.28		19.81
Kokusai-Seiyakusho, Tokyo.....	Neotanvarsan.....	19	18.26		19.65
Do.....	do.....	20	18.15	18.27 18.34	18.40
Do.....	do.....	21	18.10	18.19	18.30
Banyu Co., Tokyo.....	Neochramisol.....	CHA	18.82		^a 17.93
Do.....	do.....	CHA	18.47		18.41
Sankyo & Co., Tokyo.....	Neoarsaminol.....	N139	16.56	16.96	17.04
Do.....	do.....	N153	16.81		16.70
Do.....	do.....	N183			17.21
Do.....	do.....	N185			17.44
Do.....	do.....	180	16.80	16.96	17.27
Synthetic Drug Co., Toronto.....	Neodarsenol.....	181			16.89
Do.....	do.....	182			16.69
Do.....	do.....	183			15.50
Do.....	do.....	189		15.79 16.05	16.68
Do.....	do.....	262			17.55
Do.....	do.....	264			^b 15.33
Do.....	do.....	267			16.35
Do.....	do.....				15.37
Do.....	do.....				15.29
Do.....	do.....				15.46
Do.....	do.....				15.30

^a The tube had been opened for a considerable length of time previous to analysis and the product was oxidized to a considerable extent.

^b The sample was not uniform.

A survey of the preceding tables shows that the results obtained by the Lehmann and the gravimetric methods are nearly identical, while those obtained by direct titration with iodine volumetric solution are relatively low in all cases. With the Ewins method, the results are occasionally of the same magnitude as those obtained by the gravimetric determination, but, as a rule, they are also relatively low.

With respect to the titration method, Gaebel (1911c) states that the reaction between arsphenamine and iodine is a reversible one, viz:



As a consequence a state of equilibrium is reached before all of the arsphenamine has been oxidized and the amount of iodine solution consumed is less than that required by theory. This investigator states further that the reagents (sodium bicarbonate, sodium acetate, borax, etc.) usually employed for overcoming this difficulty in iodo-metric titrations of arsenious compounds are of no value in this case, a condition which has also been observed by the authors. This method appears, therefore, to be of little value.

The low percentages obtained by the Ewins method are apparently the result of a loss of arsenic through volatilization. It was thought that this loss might be avoided by slowing the rate of digestion. A number of samples were, therefore, digested for some time in the cold and then slowly over a low flame. Samples from the same tubes were also digested rapidly in order to obtain data for comparison. The results obtained follow;

TABLE 3.—*Effect of rate of digestion on the results obtained by the Ewins method.*

Manufacturer.	Name of product.	Lot number.	Per cent of arsenic, Ewins's method.	
			Slow digestion.	Rapid digestion.
Dermatological Research Laboratories, Philadelphia.....	Arsenoben- zol.	740	30.33	28.64
Do.....	do.	750		28.75
Do.....	do.	799	29.69	28.60
Do.....	do.	873	29.71	28.69
Do.....	do.	886	30.22	28.52
Do.....	do.	890		28.65
Do.....	do.	952	30.33	28.62

The above data indicate that the rate at which digestion is allowed to proceed is a factor which influences the final result to a very considerable extent. But they also show that the results are low even when digestion is carried out very slowly. It appears, therefore, that this method in its present form is objectionable. It is possible that greater accuracy might be attained by condensing the fumes which escape during digestion, reuniting the distillate with the contents of the Kjeldahl flask previous to neutralization, and finally titrating the mixture. Work along this line is, however, necessary before a positive statement can be made.

The method of Lehmann, with the slight modifications recommended in the footnotes, is accurate and reliable. It is simple, requires but small quantities of inexpensive reagents, and can be completed in about one and one-half hours. It, therefore, appears to be superior to any of the other methods mentioned for the routine analysis of these products.

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PREVALENCE OF DISEASE.

No health department, State or local, can effectively prevent or control disease without knowledge of when, where, and under what conditions cases are occurring.

UNITED STATES.

EXTRA-CANTONMENT ZONES—CASES REPORTED WEEK ENDED JUNE 18.

CAMP BEAUREGARD ZONE, LA.		CAMP DODGE ZONE, IOWA—continued.	
	Cases.		Cases.
Gonorrhea:		Grimes:	
Alexandria.....	1	Scarlet fever.....	2
Malaria:		Runnells:	
Alexandria.....	5	Diphtheria.....	1
Mumps:			
Alexandria.....	11	CAMP DONIPHAN ZONE, OKLA.	
Pineville.....	1	Lawton:	
Tuberculosis:		Gonorrhea.....	6
Alexandria.....	2	Mumps.....	1
Rural district.....	1		
Typhoid fever:		CAMP EBERTS ZONE, ARK.	
Pineville.....	1	Chancroid:	
Whooping cough:		Allport.....	1
Alexandria.....	3	Diphtheria:	
		Kerr, route 1.....	1
CAMP ROWIE ZONE, TEX. ¹		Dysentery:	
Fort Worth:		Cabot.....	1
Chicken pox.....	1	Kerr, route 1.....	1
Erysipelas.....	1	Erysipelas:	
Gonorrhea.....	17	England, route 1.....	1
Measles.....	3	Gonorrhea:	
Mumps.....	2	Lonoke.....	3
Smallpox.....	2	England.....	2
Syphilis.....	18	Malaria:	
Typhoid fever.....	7	Lonoke.....	1
Whooping cough.....	5	Lonoke, route 1.....	1
		Lonoke, route 2.....	2
CAMP BEVENS ZONE, MASS.		Lonoke, route 3.....	1
Measles:		England.....	9
Ayer.....	1	England, route 2.....	1
Littleton.....	1	Cabot.....	1
Whooping cough:		Keo.....	2
Ayer.....	3	Carlisle.....	7
		Austin, route 1.....	3
CAMP DODGE ZONE, IOWA.		Ward.....	4
Des Moines:		Kerr, route 1.....	1
Diphtheria.....	2	Measles:	
Gonorrhea.....	10	Lonoke, route 1.....	2
Measles.....	2	England.....	4
Scarlet fever.....	6	Keo.....	1
Smallpox.....	4	Mumps:	
Syphilis.....	4	Lonoke.....	1

¹ Report for week ended June 15, 1918.

CAMP EBERTS ZONE, ARK.—continued.

Pellagra:	Cases.
Lonoke, route 2.....	1
England.....	1
Septic sore throat:	
Ward.....	1
Smallpox:	
England.....	1
Kerr, route 1.....	1
Syphilis:	
England.....	1
Tuberculosis:	
Lonoke, route 1.....	1
Ward.....	1

CAMP FUNSTON ZONE, KANS.

Junction City:	
Mumps.....	1
Smallpox.....	1
Tuberculosis.....	1
Manhattan:	
Measles.....	1
Mumps.....	6
Whooping cough.....	1

CAMP GORDON ZONE, GA.¹

Cerebrospinal meningitis:	
Atlanta.....	2
Gonorrhea:	
Atlanta.....	21
Malaria:	
Atlanta.....	3
Measles:	
Atlanta.....	15
Meningitis, tubercular:	
Atlanta.....	1
Mumps:	
Atlanta.....	29
Pellagra:	
Atlanta.....	1
Pneumonia:	
Atlanta.....	5
Scarlet fever:	
Atlanta.....	1
Decatur.....	1
Smallpox:	
Atlanta.....	3
College Park.....	1
Decatur.....	1
Fairburn.....	1
Orchard Knob.....	1
Syphilis:	
Atlanta.....	5
Tuberculosis:	
Atlanta.....	11
Typhoid fever:	
Atlanta.....	2
Whooping cough:	
Atlanta.....	4
Decatur.....	2

CAMP GREENE ZONE, N. C.

Charlotte Township:	
Gonorrhea.....	4
Measles.....	2

¹ Report for June 12 to 15, 1918.

CAMP GREENE ZONE, N. C.—continued.

Charlotte Township—Continued.	Cases.
Mumps.....	1
Scarlet fever.....	5
Syphilis.....	16
Typhoid fever.....	1
Whooping cough.....	15

GULFPORT HEALTH DISTRICT, MISS.

Gulfport health district:	
Cancer.....	1
Dysentery.....	1
Gonorrhea.....	1
Malaria.....	17
Measles.....	1
Mumps.....	7
Pellagra.....	5
Tuberculosis.....	1
Whooping cough.....	2

CAMP HANCOCK ZONE, GA.

Augusta:	
Chicken pox.....	3
German measles.....	1
Malaria.....	2
Measles.....	4
Typhoid fever.....	2
Whooping cough.....	4

CAMP JACKSON ZONE, S. C.²

Columbia:	
Mumps.....	9
Typhoid fever.....	6
Whooping cough.....	28

CAMP JOSEPH E. JOHNSTON ZONE, FLA.

Cerebrospinal meningitis:	
Jacksonville.....	1
Chancroid:	
Jacksonville.....	4
Chicken pox:	
Jacksonville.....	13
Dysentery:	
Fishers Corner.....	1
Grand Crossing.....	1
South Jacksonville.....	1
Gonorrhea:	
Jacksonville.....	57
Hookworm:	
Grand Crossing.....	3
Lackawanna.....	4
Panama.....	1
Malaria:	
Jacksonville.....	1
Measles:	
Jacksonville.....	2
Mumps:	
Jacksonville.....	2
Pellagra:	
Jacksonville.....	2
Syphilis:	
Jacksonville.....	41
Trachoma:	
Jacksonville.....	1
Tuberculosis:	
Jacksonville.....	5

² Report for week ended June 15, 1918.

CAMP JOSEPH E. JOHNSTON ZONE, FLA.—contd.

Typhoid fever:	Cases.
Jacksonville.....	3
Ortega.....	1
Riverview.....	1
Whooping cough:	
Jacksonville.....	20
St. John Park.....	1

FORT LEAVENWORTH ZONE, KANS.

Leavenworth:	
Diphtheria.....	3
Gonorrhea.....	5
Pneumonia, lobar.....	1
Scarlet fever.....	2
Smallpox.....	2
Tuberculosis.....	2
Leavenworth County:	
Diphtheria.....	2

CAMP LEE ZONE, VA.

Chancreoid:	
Petersburg.....	2
German measles:	
Petersburg.....	1
Gonorrhea:	
Petersburg.....	3
Hopewell.....	3
Mumps:	
Hopewell.....	1
Prince George County.....	3
Syphilis:	
Petersburg.....	1
Typhoid fever:	
Hopewell.....	1
Whooping cough:	
Hopewell.....	1

CAMP LOGAN ZONE, TEX.

Cerebrospinal meningitis:	
Houston.....	1
Chancreoid:	
Houston.....	1
Goose Creek.....	1
Diphtheria:	
Houston.....	2
Gonorrhea:	
Houston.....	15
Park Place.....	1
Syphilis:	
Houston.....	14
Goose Creek.....	1
Magnolia Park.....	1
Tuberculosis:	
Houston.....	5
Typhoid fever:	
Houston.....	2

CAMP M'ARTHUR ZONE, TEX.

Waco:	
Mumps.....	1
Poliomyelitis.....	3
Tuberculosis.....	3
Typhoid fever.....	5
Whooping cough.....	4

CAMP M'CLELLAN ZONE, ALA.

Malaria:	
Anniston.....	2
Measles:	
Anniston.....	1

CAMP M'CLELLAN ZONE, ALA.—continued.

Pellagra:	Cases
Anniston.....	1
Tuberculosis:	
Anniston.....	2
Blue Mountain.....	1
Typhoid fever:	
Anniston.....	1
Blue Mountain.....	1
Precinct 23.....	1
Whooping cough:	
Anniston.....	1
NORFOLK COUNTY NAVAL DISTRICT, VA.	
Measles:	
Portsmouth.....	1
Ocean View.....	1
Norfolk.....	1
Mumps:	
Expo.....	1
Norfolk County.....	2
Portsmouth.....	1
Brighton.....	1
Scarlet fever:	
Norfolk.....	2
Portsmouth.....	2
Typhoid fever:	
Portsmouth.....	2
Pleasant Grove District.....	1
Ocean View.....	1
Whooping cough:	
Portsmouth.....	4
Ocean View.....	2
Norfolk.....	1

FORT OGLETHORPE ZONE, GA.

Cerebrospinal meningitis:	
Chattanooga.....	1
Dysentery:	
Rossville.....	1
Gonorrhea:	
Chattanooga.....	11
St. Elmo.....	1
Whiteside.....	1
Scarlet fever:	
Chattanooga.....	2
Syphilis:	
Chattanooga.....	11
Whooping cough:	
Chattanooga.....	17

CAMP PIKE ZONE, ARK.

Keo:	
Malaria.....	4
Little Rock:	
Dysentery.....	3
Gonorrhea.....	11
Malaria.....	8
Measles.....	2
Mumps.....	7
Pellagra.....	1
Pneumonia.....	1
Poliomyelitis.....	1
Syphilis.....	3
Tuberculosis.....	2
Typhoid fever.....	2
Whooping cough.....	1
North Little Rock:	
Gonorrhea.....	1
Malaria.....	4
Typhoid fever.....	2
Whooping cough.....	6

CAMP PIKE ZONE, ARK.—continued.

Scotts:	Cases.
Malaria.....	3
Mumps.....	1

CAMP SEVIER ZONE, S. C.

Dysentery:	
Bates Township.....	1
Malaria:	
Bates Township.....	2
Mumps:	
Chick Springs Township.....	3
Smallpox:	
Greenville Township.....	1
Tuberculosis:	
Toris Mountain Township.....	2
Bates Township.....	1
Typhoid fever:	
Bates Township.....	2
Greenville Township.....	1
Whooping cough:	
Butler Township.....	1

CAMP SHELBY ZONE, MISS.

Hattiesburg:	
Chicken pox.....	1
Dysentery, amebic.....	1
Hookworm.....	2
Malaria.....	14
Pellagra.....	1
Tuberculosis.....	1
Typhoid fever.....	4
Whooping cough.....	4
McHenry:	
Typhoid fever.....	1
Sumrall:	
Typhoid fever.....	1

CAMP SHERIDAN ZONE, ALA.

Montgomery:	
Gonorrhea.....	6
Mumps.....	1
Syphilis.....	2
Tuberculosis, pulmonary.....	2
Typhoid fever.....	4
Montgomery County:	
Mumps.....	1
Typhoid fever.....	4
Whooping cough.....	3
United States Government Clinic:	
Chancroid.....	7
Gonorrhea.....	28
Syphilis.....	6

CAMP SHERMAN ZONE, OHIO.

Diphtheria:	
Chillicothe.....	2
Hallsville.....	1
Gonorrhea:	
Chillicothe.....	5
Measles:	
Chillicothe.....	2
Scioto Township.....	1
Scarlet fever:	
Chillicothe.....	2
Tuberculosis, pulmonary:	
Chillicothe.....	1

CAMP ZACHARY TAYLOR ZONE, KY.

Jefferson County:	Cases.
Diphtheria.....	5
Tuberculosis, pulmonary.....	2
Typhoid fever.....	1
Louisville:	
Chicken pox.....	3
Diphtheria.....	2
Malaria.....	1
Measles.....	5
Mumps.....	1
Trachoma.....	1
Tuberculosis, pulmonary.....	19
Typhoid fever.....	2
Whooping cough.....	7
New Albany, Ind.:	
Smallpox.....	2
United States Government clinic:	
Chancroid.....	2
Gonorrhea.....	38
Syphilis.....	46

TIDEWATER HEALTH DISTRICT, VA.

Hampton:	
Typhoid fever.....	1
Newport News:	
Cerebrospinal meningitis.....	1
Chancroid.....	6
Gonorrhea.....	22
Measles.....	1
Mumps.....	3
Scarlatina.....	1
Syphilis.....	9
Tuberculosis.....	1
Typhoid fever.....	2
Whooping cough.....	1
Phoebe:	
Tuberculosis.....	1
Whooping cough.....	7

CAMP TRAVIS ZONE, TEX.

San Antonio:	
Chancroid.....	4
Diphtheria.....	1
Gonorrhea.....	30
Mumps.....	1
Syphilis.....	9
Tuberculosis.....	3
Typhoid fever.....	21

CAMP WADSWORTH ZONE, S. C.

Gonorrhea:	
Spartanburg.....	22
Measles:	
Spartanburg.....	1
Duncan.....	2
Mumps:	
Spartanburg.....	8
Whitney.....	12
Syphilis:	
Spartanburg.....	6
Typhoid fever:	
Glendale.....	1
Duncan.....	1
Roebuck.....	2
Whooping cough:	
White Stone.....	7

CAMP WHEELER ZONE, GA.¹

Macon:	
Pneumonia.....	1
Typhoid fever.....	2

¹ Report for week ended June 15, 1918.

DISEASE CONDITIONS AMONG TROOPS IN THE UNITED STATES.

The following data are taken from telegraphic reports received in the office of the Surgeon General, United States Army, for the week ended June 7, 1918:

Annual admission rate per 1,000 (disease only):		Noneffective rate per 1,000 on day of report—Continued.	
All troops.....	1,056.1	Cantonments.....	42.2
Divisional camps.....	1,135.3	Departmental and other troops.....	33.6
Cantonments.....	975.6	Annual death rate per 1,000 (disease only):	
Departmental and other troops.....	1,101.1	All troops.....	3.16
Noneffective rate per 1,000 on day of report:		Divisional camps.....	3.2
All troops.....	37.8	Cantonments.....	3.6
Divisional camps.....	36.8	Departmental and other troops.....	2.58

New cases of special diseases reported during the week ended June 7, 1918.

Camp.	Pneumonia.	Dysentery.	Malaria.	Venereal.		Measles.	Meningitis.	Scarlet fever.	Deaths.	Annual admission rate per 1,000 (disease only).	Noneffective per 1,000 on day of report.
				Total.	New infections.						
Beauregard.....	4	5	22	129	4	2	2		2	927.3	47.0
Bowie.....	4		2	52	51	2			1	764.1	25.3
Cody.....	11			3	3				3	967.8	24.5
Doniphan.....				15				1	2	1,579.5	44.0
Fremon't.....	8		2	14	7	6		1	4	1,016.9	38.6
Hancock.....				74		1				985.8	43.5
Kearny.....	4		1	4		4	1	1	3	370.7	20.0
Logan.....	2			44					2	3,198.0	15.0
MacArthur.....										1,032.0	37.2
McClellan.....				26	10	3				582.2	25.0
Savler.....	10		7	269	4	7				1,346.3	46.5
Shelby.....			8	15	3	2		1		1,007.3	39.2
Sheridan.....			1	35		6				613.6	35.0
Wadsworth.....	2		1	94		18			3	1,257.0	29.9
Wheeler.....	4			25	5				6	2,846.2	50.9
Custer.....	4		1	68	9	11			2	509.3	20.5
Devens.....	16		1	32	7	10	3		6	682.2	36.4
Dix.....	3	1	1	170	2	8	1	6	2	871.3	34.3
Dodge.....	4		2	99		14		2	3	1,239.9	59.1
Funston.....	3			50	4	6	2		2	787.1	55.4
Gordon.....	14		2	149	5	34	2		7	1,591.5	87.6
Grant.....	1			34		3	2		2	373.9	17.0
Jackson.....	9		1	114		58			1	1,412.7	57.7
J. E. Johnston.....	2			74	64	6		2		1,198.9	41.6
Lee.....	9		5	272			6		4	626.6	57.5
Lewis.....	4		3	235	3	3	3	9	5	1,007.9	33.1
Meade.....	3			18	4	2	1		1	559.7	29.4
Pike.....	14	4	15	72	12	44	2		5	1,684.2	60.7
Sherman.....	2		1	74				1		1,334.8	88.5
Taylor.....	7			102		16				1,017.4	42.9
Travis.....	1		6	69	6	26	1	1	2	1,366.1	39.3
Upton.....	8		1	283	34		1	1	5	740.7	27.2
Northeastern Department.....	2			27	14	3			1	735.5	28.5
Eastern Department.....	11		4	148	46	8	1	1	3	900.5	23.3
Southeastern Department.....			3	236	18	5			2	1,614.0	43.3
Central Department.....	2			78	37	5		2	1	1,591.5	42.2
Southern Department.....	8	2	1	337	90	13		9	6	1,172.5	34.4
Western Department.....	5			69	28	15		6	2	915.9	23.0
Aviation, S. C.....	16	7	4	205		14		3	14	1,055.7	30.8
Aleatraz, Disciplinary Barracks.....										800.0	12.3
Columbus Barracks.....				22	1				1	570.0	18.7
Edgewood Arsenal.....				1	1				1	779.0	20.0
Hoboken.....	5		7	225	19	37	4		3	802.9	29.5
Jefferson Barracks.....	3			177	2	4		3	1	1,598.6	77.5
Leavenworth, Disciplinary Barracks.....				6		1				895.4	38.3
Logan, Fort.....				10				1	2	1,691.5	50.3
McDowell, Fort.....	2	1		45		5		1		3,824.5	101.0
Newport News.....	10		4	328	12	11	2	1	3	1,462.4	61.6
Slocum, Fort.....	2			160	2				1	2,058.7	47.0
Springfield Armory.....											
Thomas, Fort.....	1		1	17		4				985.0	29.0
Watervleit.....										600.0	25.9
West Point.....				1						785.4	13.8
Total.....	222	20	111	4,806	507	425	34	54	114	1,056.1	37.8

Annual rate per 1,000 for special diseases.

Diseases.	All troops in United States. ¹	Depart- mental and other troops. ¹	Divi- sional camps. ¹	Canton- ments. ¹	Expedi- tionary forces. ¹
Pneumonia.....	8.07	6.7	8.5	9.1	15.0
Dysentery.....	.7	1.0	.8	.5	.43
Malaria.....	4.6	2.38	8.0	3.4	.95
Venereal.....	174.9	208.0	133.4	167.5	38.3
Typhoid.....	.14		.3	.17	.08
Measles.....	15.46	12.2	9.5	21.4	8.6
Meningitis.....	1.23	.69	.5	2.1	2.5
Scarlet fever.....	1.96	2.68	.8	1.9	7.2

¹ Week ended June 7, 1918.² Week ended May 30, 1918.**CURRENT STATE SUMMARIES.****California.**

From the State Board of Health of California, by telegraph, for week ended June 15, 1918:

All communicable diseases less prevalent in State. Smallpox: 17 cases, of which 10 were in the San Joaquin Valley, 4 in Riverside. Typhoid fever considerably reduced, but 10 cases having been reported during week. Measles more prevalent in Los Angeles than in other parts of State. Scarlet fever and mumps more prevalent in the San Francisco Bay region than in other parts of State.

Reported by mail for preceding week (ended June 8):

Cerebrospinal meningitis.....	3	Measles.....	390
Chicken pox.....	108	Mumps.....	119
Diphtheria.....	63	Pneumonia.....	57
Dysentery.....	2	Poliomyelitis.....	1
Erysipelas.....	11	Scarlet fever.....	60
German measles.....	79	Smallpox.....	20
Gonococcus infection.....	118	Syphilis.....	51
Hookworm.....	1	Tuberculosis.....	160
Leprosy.....	2	Typhoid fever.....	26
Malaria.....	16	Whooping cough.....	117

Connecticut.

From Collaborating Epidemiologist Black, by telegraph, for week ended June 15, 1918:

Cerebrospinal meningitis: Watertown 1, New Haven 1, New Britain 1. Smallpox: New London 5, East Lyme 1.

Illinois.

From Collaborating Epidemiologist Drake, by telegraph, for week ended June 15, 1918:

Diphtheria: One hundred, of which in Chicago 74. Scarlet fever: Thirty-seven, of which in Chicago 29. Smallpox: Thirty-four, of which in Lawrenceville 3, Eldorado 4, Quincy 3. Meningitis: Chicago 7. Poliomyelitis: Chicago 1.

Indiana.

From the State Board of Health of Indiana, by telegraph, for week ended June 15, 1918:

Measles: Epidemic Flatrock. Smallpox: Epidemic Starke County. Infantile paralysis: One death Evansville. Meningitis: Two cases Spencer Township (Harrison County).

Louisiana.

From Collaborating Epidemiologist Dowling, by telegraph, for week ended June 15, 1918:

Meningitis 2, typhoid 79, smallpox 13, diphtheria 102, malaria 87.

Massachusetts.

From Collaborating Epidemiologist Hitchcock, by telegraph, for week ended June 15, 1918:

Unusual prevalence. Measles: Manchester 30, Peabody 22, Lawrence 94, Waltham 35, Fitchburg 38.

Minnesota.

From Collaborating Epidemiologist Bracken, by telegraph, for week ended June 15, 1918:

Smallpox, new foci: Carver County, San Francisco Township; Faribault County, Delavan; Renville County, Norfolk Township; Roseau County, Barnett Township; Watonwan County, Antrin Township; each one case. Cass County, Sylvan Township, 2 cases.

Nebraska.

From the State Board of Health of Nebraska, by telegraph, for week ended June 15, 1918:

Smallpox: Gary, Lakeside, Antioch, Scotts Bluff, Giltner. Scarlet fever: Culbertson. Measles: Belgrade.

Vermont.

From Collaborating Epidemiologist Dalton, by telegraph, for week ended June 15, 1918:

Smallpox: Rutland 1. No other outbreak or unusual prevalence.

Virginia.

From the State Board of Health of Virginia, by telegraph, for week ended June 15, 1918:

Five cases smallpox Essex County, 3 Louisa, 1 Nelson, 1 Bedford, 1 Mecklenburg. One case poliomyelitis Campbell County, 2 Prince William. One case cerebrospinal meningitis Newport News.

Washington.

From Collaborating Epidemiologist Tuttle, by telegraph, for week ended June 15, 1918:

Scarlet fever: Seattle 26, Tacoma 34. One suspected cerebrospinal meningitis, Tacoma. No unusual outbreaks.

CEREBROSPINAL MENINGITIS.

State Reports for May, 1918.

Place.	New cases reported.	Place.	New cases reported.
District of Columbia.....	16	Massachusetts—Continued.	
Maryland:		Hampden County—	
Baltimore.....	19	West Springfield (town).....	1
Allegany County.....	4	Middlesex County.....	2
Cumberland.....	1	Cambridge.....	2
Baltimore County—		Lowell.....	2
Canton.....	1	Newton.....	1
Fort Howard.....	1	Somerville.....	1
Harford County—		Watertown (town).....	1
Whiteford.....	1	Norfolk County—	
Total.....	27	Braintree (town).....	1
Massachusetts:		Quincy.....	1
Berkshire County—		Suffolk County—	
Pittsfield.....	1	Boston.....	8
Bristol County—		Revere.....	1
Fall River.....	3	Worcester County—	
New Bedford.....	1	Blackstone (town).....	1
Taunton.....	1	Fitchburg.....	2
Essex County—		Northbridge (town).....	1
Lynn.....	1	Worcester.....	3
Newburyport.....	1	Total.....	36

City Reports for Week Ended June 1, 1918.

Place.	Cases.	Deaths.	Place.	Cases.	Deaths.
Aberdeen, S. Dak.....		1	Milwaukee, Wis.....	2	3
Abilene, Tex.....	1		Missoula, Mont.....		1
Baltimore, Md.....	4	2	Nashville, Tenn.....		1
Bayonne, N. J.....	1		Newark, N. J.....		3
Birmingham, Ala.....	1	1	New Orleans, La.....	2	1
Boston, Mass.....	2	1	New York, N. Y.....	18	7
Bridgeport, Conn.....	1		Petersburg, Va.....	1	
Chicago, Ill.....	3	4	Philadelphia, Pa.....	2	2
Cincinnati, Ohio.....		1	Providence, R. I.....	2	1
Cleveland, Ohio.....	1	1	Quincy, Ill.....	1	
Detroit, Mich.....		1	Riverside, Cal.....	1	1
Evansville, Ind.....	1		Rochester, N. Y.....		1
Everett, Wash.....		1	St. Louis, Mo.....	2	2
Flint, Mich.....		1	Scranton, Pa.....	1	
Galesburg, Ill.....		1	Tacoma, Wash.....	1	
Independence, Kans.....	2	2	Troy, N. Y.....	1	
Indianapolis, Ind.....	1	2	Washington, D. C.....	2	1
Iola, Kans.....			Wheeling, W. Va.....	1	
Kansas City, Mo.....		1	Wichita, Kans.....	1	1
Louisville, Ky.....		1	Winston-Salem, N. C.....		1

DIPHTHERIA.

See Diphtheria, measles, scarlet fever, and tuberculosis, page 1033.

ERYSIPELAS.**City Reports for Week Ended June 1, 1918.**

Place.	Cases.	Deaths.	Place.	Cases.	Deaths.
Akron, Ohio.....	2	.....	Milwaukee, Wis.....	2	.....
Ann Arbor, Mich.....	4	.....	Minneapolis, Minn.....	3	.....
Bakersfield, Cal.....	1	.....	Mount Vernon, N. Y.....	1	.....
Baltimore, Md.....	1	.....	Newark, N. J.....	4	.....
Battle Creek, Mich.....	1	.....	Newburgh, N. Y.....	.....	1
Berkeley, Cal.....	1	.....	New York, N. Y.....	.....	3
Boston, Mass.....	.....	1	Norfolk, Va.....	1	.....
Bridgeport, Conn.....	1	.....	Oakland, Cal.....	1	1
Buffalo, N. Y.....	2	.....	Passaic, N. J.....	2	.....
Cambridge, Mass.....	.....	1	Philadelphia, Pa.....	2	1
Chicago, Ill.....	10	.....	Sacramento, Cal.....	1	.....
Cleveland, Ohio.....	1	.....	St. Joseph, Mo.....	1	.....
Denver, Colo.....	1	.....	St. Louis, Mo.....	4	.....
Detroit, Mich.....	1	1	St. Paul, Minn.....	1	1
Kalamazoo, Mich.....	.....	2	San Francisco, Cal.....	5	1
Kansas City, Kans.....	1	.....	Seattle, Wash.....	1	.....
Kansas City, Mo.....	2	1	Sioux City, Iowa.....	1	.....
Long Beach, Cal.....	1	.....	Somerville, Mass.....	.....	1
Los Angeles, Cal.....	1	.....	Tacoma, Wash.....	1	.....
Louisville, Ky.....	1	1	Topeka, Kans.....	2	1
Melrose, Mass.....	1	.....		

LEPROSY.**California—Rio Vista and San Francisco.**

During the month of May, 1918, 2 cases of leprosy were notified in the State of California; 1 at Rio Vista, in the person of R. W., female, aged 14 years, born in Hawaiian Islands, came to the United States 7 years ago, and has lived in Rio Vista 3½ years, and in San Francisco for the same length of time; the other case at San Francisco, in the person of L. J., male, aged 20 years, native of China, came to the United States 8 years ago, has lived in San Francisco 1 month, and before that lived in Portland, Oreg.

Massachusetts—Boston—On Vessel.

On May 7, 1918, a case of leprosy in the person of W. C., native of East Indies, aged 22 years, recently arrived on the steamship *Gunene*, was reported at Boston, Mass. The patient was an alien and was deported on the same vessel on which he arrived.

MALARIA.

State Reports for May, 1918.

Place.	New cases reported.	Place.	New cases reported.
Maryland:		Massachusetts:	
Anne Arundel County.....	2	Essex County—	
Calvert County—		Lynn.....	2
Prince Frederick.....	1	Suffolk County—	
Frederick County—		Boston.....	2
Walkersville.....	1	Total.....	4
Kent County—			
Rock Hall.....	1		
Chestertown.....	1		
Total.....	6		

City Reports for Week Ended June 1, 1918.

Place.	Cases.	Deaths.	Place.	Cases.	Deaths.
Albany, Ga.....	2		Marshall, Tex.....	2	
Atlanta, Ga.....	1		Memphis, Tenn.....	5	1
Beaumont, Tex.....	1	1	Mobile, Ala.....		1
Birmingham, Ala.....	1	1	Montgomery, Ala.....	30	
Boston, Mass.....	2		Newark, N. J.....	1	
Cape Girardeau, Mo.....	4		New Orleans, La.....	1	1
Charleston, S. C.....		2	New York, N. Y.....		2
Corsicana, Tex.....	2		North Little Rock, Ark.....	1	
Hattiesburg, Miss.....	14		Palestine, Tex.....	6	
Jersey City, N. J.....	1		Petersburg, Va.....	3	
Little Rock, Ark.....	18		Rahway, N. J.....	1	
Louisville, Ky.....	2		Rocky Mount, N. C.....	1	1
Macon, Ga.....	3	1			

MEASLES.

See Diphtheria, measles, scarlet fever, and tuberculosis, page 1033.

PELLAGRA.

State Reports for May, 1918.

Place.	New cases reported.	Place.	New cases reported.
District of Columbia.....	1	Massachusetts:	
Maryland:		Norfolk County—	
Dorchester County—		Foxboro (town).....	1
Woolford.....	1	Suffolk County—	
Madison.....	1	Boston.....	1
Total.....	2	Chelsea.....	1
		Total.....	3

City Reports for Week Ended June 1, 1918.

Place.	Cases.	Deaths.	Place.	Cases.	Deaths.
Albany, Ga.....	1		Macon, Ga.....		1
Albuquerque, N. Mex.....		1	Memphis, Tenn.....		2
Atlanta, Ga.....	1		Mobile, Ala.....		1
Austin, Tex.....		2	Nashville, Tenn.....	5	1
Birmingham, Ala.....	5	2	New Orleans, La.....	1	1
Charlotte, N. C.....		2	New York, N. Y.....		1
Corsicana, Tex.....	1	1	Raleigh, N. C.....	1	1
Dallas, Tex.....	1	2	Richmond, Va.....	1	
Durham, N. C.....	1	2	Rocky Mount, N. C.....	1	1
Fort Worth, Tex.....	1	1	Spartanburg, S. C.....	1	1
Greenville, S. C.....		1	Washington, D. C.....	1	
Lexington, Ky.....		1	Winston-Salem, N. C.....	1	1
Little Rock, Ark.....		2			

PLAGUE.

California—Contra Costa County—Plague-Infected Squirrel Found.

On June 8, 1918, a plague-infected squirrel was shot 5 miles west of Martinez, Contra Costa County, Cal.

PNEUMONIA.

City Reports for Week Ended June 1, 1918.

Place.	Cases.	Deaths.	Place.	Cases.	Deaths.
Adams, Mass.	1	1	Long Beach, Cal.	2	.....
Amarillo, Tex.	1	.....	Los Angeles, Cal.	8	8
Amsterdam, N. Y.	2	1	Louisville, Ky.	1	8
Atlanta, Ga.	1	3	Lowell, Mass.	1	2
Baltimore, Md.	15	9	Lynn, Mass.	2	1
Battle Creek, Mich.	1	.....	Malden, Mass.	1	1
Beverly, Mass.	1	.....	Manchester, N. H.	1	1
Binghamton, N. Y.	1	.....	Manitowoc, Wis.	1	.....
Boston, Mass.	6	11	Marshall, Tex.	1	.....
Buffalo, N. Y.	3	7	Millford, Mass.	3	.....
Cambridge, Mass.	5	2	Newark, N. J.	32	4
Chelsea, Mass.	2	.....	Newburgh, N. Y.	1	1
Chicago, Ill.	64	37	Newport, Ky.	1	1
Cleveland, Ohio.	13	.....	North Little Rock, Ark.	2	1
Clinton, Mass.	2	.....	North Tonawanda, N. Y.	1	.....
Corsicana, Tex.	1	1	Oakland, Cal.	1	5
Cumberland, Md.	4	.....	Ogden, Utah.	3	.....
Dayton, Ohio.	1	1	Ossining, N. Y.	2	.....
Detroit, Mich.	6	13	Oswego, N. Y.	1	.....
Elmira, N. Y.	4	2	Palestine, Tex.	1	.....
Everett, Mass.	1	1	Parkersburg, W. Va.	1	1
Fall River, Mass.	4	.....	Philadelphia, Pa.	28	29
Fort Worth, Tex.	1	1	Pontiac, Mich.	1	1
Grand Rapids, Mich.	2	.....	Richmond, Va.	1	2
Greenfield, Mass.	1	.....	Riverside, Cal.	1	1
Hartford, Conn.	1	.....	Rochester, N. Y.	3	5
Haverhill, Mass.	2	.....	St. Cloud, Minn.	3	.....
Holyoke, Mass.	2	.....	San Francisco, Cal.	8	9
Independence, Mo.	1	.....	Sault Ste. Marie, Mich.	1	.....
Jackson, Mich.	1	1	Schenectady, N. Y.	2	2
Jamestown, N. Y.	1	.....	Springfield, Mass.	5	2
Kansas City, Mo.	2	9	Toledo, Ohio.	1	1
Lackawanna, N. Y.	3	.....	Waltham, Mass.	1	3
Lawrence, Mass.	2	1	Westfield, Mass.	1	.....
Lincoln, Nebr.	1	1	Worcester, Mass.	3	1

POLIOMYELITIS (INFANTILE PARALYSIS).

State Reports for May, 1918.

Place.	New cases reported.	Place.	New cases reported.
Maryland:		Massachusetts:	
Baltimore County—		Middlesex County—	
Lauraville	1	Cambridge	1
Kingsville	1	Framingham (town)	2
Frederick County—		Suffolk County—	
Myersville	1	Boston	1
Howard County—		Braintree (town)	1
Laurel	1	Worcester County—	
Total	4	Barre (town)	1
		Total	6

City Reports for Week Ended June 1, 1918.

Place.	Cases.	Deaths.	Place.	Cases.	Deaths.
Alton, Ill.	2	.....	Natick, Mass.	1	.....
Indianapolis, Ind.	1	.....	Richmond, Va.	1	1
Milwaukee, Wis.	1	1	Springfield, Ill.	1	.....
Moundsville, W. Va.	1	.....	Waco, Tex.	4	1

RABIES IN ANIMALS.

City Reports for Week Ended June 1, 1918.

Place.	Cases.	Place.	Cases.
Detroit, Mich.	1	Pueblo, Colo.	2
Louisville, Ky.	1	Schenectady, N. Y.	3
Memphis, Tenn.	1		

ROCKY MOUNTAIN SPOTTED FEVER.

California.

During the month of May, 1918, 3 cases of Rocky Mountain spotted fever were reported in California; 2 cases in Plumas County and 1 in Lassen County.

Montana.

During the month of May, 1918, 3 cases of Rocky Mountain spotted fever were reported in Montana; 2 cases in Ravalli County and 1 in Yellowstone County.

SCARLET FEVER.

See Diphtheria, measles, scarlet fever, and tuberculosis, page 1033.

SMALLPOX.

State Reports for May, 1918.

Place.	New cases reported.	Deaths.	Vaccination history of cases.			
			Number vaccinated within 7 years preceding attack.	Number last vaccinated more than 7 years preceding attack.	Number never successfully vaccinated.	Vaccination history not obtained or uncertain.
District of Columbia.	11				11	
Maryland:						
Baltimore.	9				9	
Allegany County—						
Mount Savage.	1				1	
Baltimore County—						
Turners Station.	1				1	
Sparrows Point.	1				1	
Carroll County—						
Westminster.	1				1	
Howard County—						
Savage.	2				2	
Prince Georges County—						
Laurel.	2				2	
Somerset County—						
Tylerton.	2				2	
Total.	19				19	
Massachusetts:						
Essex County—						
Lynn.	1				1	
Suffolk County—						
Boston.	2				2	
Total.	3				3	

Vermont Report for May, 1918.

During the month of May smallpox was reported in Vermont as follows: Essex County, 1; Rutland County, 3; Windham County, 1.

City Reports for Week Ended June 1, 1918.

Place.	Cases.	Deaths.	Place.	Cases.	Deaths.
Aberdeen, Wash.	1		Kansas City, Mo.	21	
Abilene, Tex.	6		Knoxville, Tenn.	2	
Akron, Ohio	3		Kokomo, Ind.	3	
Alton, Ill.	1		La Crosse, Wis.	3	
Ann Arbor, Mich.	1		Leavenworth, Kans.	7	
Atlanta, Ga.	8		Lebanon, Pa.	2	
Baltimore, Md.	2		Lexington, Ky.	1	
Battle Creek, Mich.	1		Lincoln, Nebr.	5	
Beaumont, Tex.	3		Little Rock, Ark.	1	
Benton Harbor, Mich.	2		Los Angeles, Cal.	2	
Billings, Mont.	1		Louisville, Ky.	3	
Birmingham, Ala.	9		Macon, Ga.	2	
Bloomington, Ind.	1		Madison, Wis.	2	
Boise, Idaho	1		Marshall, Tex.	1	
Buffalo, N. Y.	5		Mason City, Iowa.	8	
Burlington, Iowa.	1		Memphis, Tenn.	2	
Canton, Ill.	1		Michigan City, Ind.	2	
Chanute, Kans.	3		Middletown, Ohio.	5	
Charleston, W. Va.	1		Milwaukee, Wis.	4	1
Chicago, Ill.	2		Minneapolis, Minn.	17	1
Cincinnati, Ohio.	10		Muscatine, Iowa.	2	
Cleveland, Ohio.	19		Muskegon, Mich.	1	
Coffeyville, Kans.	12		Muskogee, Okla.	7	
Columbus, Ohio.	5		Nashville, Tenn.	3	
Corsicana, Tex.	1		New Albany, Ind.	3	
Council Bluffs, Iowa.	7		New Castle, Pa.	3	
Dallas, Tex.	1		New Orleans, La.	3	
Danville, Ill.	1		Oklahoma City, Okla.	23	
Davenport, Iowa.	2		Omaha, Nebr.	24	
Denver, Colo.	17		Oshkosh, Wis.	1	
Des Moines, Iowa.	11		Peoria, Ill.	7	
Detroit, Mich.	12		Philadelphia, Pa.	1	
Dubuque, Iowa.	5		Pontiac, Mich.	7	
Duluth, Minn.	2		Provo, Utah.	2	
Elgin, Ill.	1		Quincy, Ill.	8	
Erie, Pa.	4		Roanoke, Va.	1	
Evansville, Ind.	1		St. Joseph, Mo.	17	
Fairmont, W. Va.	1		St. Louis, Mo.	26	
Flint, Mich.	4		St. Paul, Minn.	3	
Fond du Lac, Wis.	1		Salt Lake City, Utah.	5	
Fort Collins, Colo.	1		San Francisco, Cal.	4	
Fort Scott, Kans.	7		Santa Ana, Cal.	6	
Fort Wayne, Ind.	1		Seattle, Wash.	6	
Fort Worth, Tex.	24		Sioux City, Iowa.	3	
Grand Rapids, Mich.	2		Sioux Falls, S. Dak.	1	
Granite City, Ill.	4		Spartanburg, S. C.	1	
Greeley, Colo.	7		Spokane, Wash.	6	
Greenville, S. C.	1		Springfield, Ill.	14	
Harrisburg, Pa.	1		Springfield, Mo.	3	
Hartford, Conn.	1		Steeltown, Pa.	1	
Hattiesburg, Miss.	1		Tacoma, Wash.	1	
Houston, Tex.	1		Terre Haute, Ind.	1	
Independence, Kans.	2		Toledo, Ohio.	3	
Independence, Mo.	2		Topeka, Kans.	4	
Indianapolis, Ind.	25		Trinidad, Colo.	1	
Iola, Kans.	15		Utica, N. Y.	5	
Iowa City, Iowa.	4		Washington, D. C.	3	
Jacksonville, Ill.	2		Waterloo, Iowa.	3	
Kalamazoo, Mich.	34		Wichita, Kans.	11	
Kansas City, Kans.	7		Winston-Salem, N. C.	4	

TETANUS.

City Reports for Week Ended June 1, 1918.

Place.	Cases.	Deaths.	Place.	Cases.	Deaths.
Cleveland, Ohio.	1	1	New York, N. Y.	1	1
Louisville, Ky.		1	Richmond, Va.		1
Mobile, Ala.		1	Worcester, Mass.		1

TUBERCULOSIS.

See Diphtheria, measles, scarlet fever, and tuberculosis, page 1033.

TYPHOID FEVER.

Florida—Pensacola.

During the period from May 1 to June 14, 1918, 28 cases of typhoid fever, with 5 deaths, were reported at Pensacola, Fla.

State Reports for May, 1918.

Place.	New cases reported.	Place.	New cases reported.
District of Columbia.....	7	Massachusetts:	
Maryland:		Berkshire County—	
Baltimore.....	13	Adams (town).....	1
Anne Arundel County—		Lanesboro (town).....	1
Shady Side.....	1	North Adams.....	3
Baltimore County—		Bristol County—	
Woodlawn.....	1	Easton (town).....	1
Sparrows Point.....	1	Fall River.....	10
Rossville.....	1	New Bedford.....	2
Roland Park.....	2	Taunton.....	1
Highlandtown.....	2	Westport (town).....	1
Arlington.....	1	Essex County—	
Calvert County—		Haverhill.....	3
Willows.....	2	Lawrence.....	1
Wallsville.....	1	Lynn.....	3
Poplars.....	1	Saugus (town).....	1
Carroll County—		Franklin County—	
New Windsor.....	2	Orange (town).....	1
Tyrone.....	1	Hampden County—	
Cecil County—		Chicopee.....	1
Chesapeake City.....	1	Springfield.....	3
Cayett's Corner.....	1	Middlesex County—	
Union Hospital.....	1	Arlington (town).....	1
Charles County—		Cambridge.....	1
Indian Head.....	1	Malden.....	6
Dorchester County—		Stoneham (town).....	1
Secretary.....	1	Sudbury (town).....	1
Bishops Head.....	1	Watertown (town).....	1
Maryland Hospital.....	1	Woburn.....	1
Frederick County—		Norfolk County—	
Brunswick.....	1	Brookline (town).....	1
Walkersville.....	4	Sharon (town).....	1
Daysville.....	1	Weymouth (town).....	1
Garrett County—		Plymouth County—	
Friendsville.....	1	Brockton.....	1
Howard County—		East Bridgewater (town).....	1
Ellicott City.....	1	Lakeville (town).....	1
Montgomery County—		Plymouth (town).....	1
Rockville.....	1	Suffolk County—	
Prince Georges County—		Boston.....	12
Aquasco.....	3	Chelsea.....	4
Laurel.....	1	Revere.....	1
Takoma Park.....	1	Worcester County—	
Queen Annes County—		Northbridge (town).....	1
Centerville.....	1	Total.....	70
Stevensville.....	1	Vermont:	
Washington County—		Caledonia County.....	1
Hagerstown.....	1	Chittenden County.....	2
Worcester County—		Orleans County.....	4
Pocomoke City.....	1	Rutland County.....	1
Sinepuxent.....	1	Washington County.....	5
Stockton.....	4	Total.....	13
Total.....	59		

TYPHOID FEVER—Continued.

City Reports for Week Ended June 1, 1918.

Place.	Cases.	Deaths.	Place.	Cases.	Deaths.
Aberdeen, S. Dak.		1	Marquette, Mich.	1	
Allentown, Pa.	1		Marshall, Tex.	1	
Arlington, Mass.	1		Martinsburg, W. Va.		1
Austin, Tex.	2		Memphis, Tenn.	1	
Baltimore, Md.	7	1	Milwaukee, Wis.	1	
Beaumont, Tex.		1	Minneapolis, Minn.	1	
Billings, Mont.	2		Mobile, Ala.	2	1
Birmingham, Ala.	5	1	Montgomery, Ala.	2	
Boise, Idaho.	1		Morgantown, W. Va.	1	
Boston, Mass.	1		Nashville, Tenn.	3	
Braddock, Pa.	1		New Castle, Pa.	1	
Brockton, Mass.		1	New Orleans, La.	4	2
Buffalo, N. Y.	2		New York, N. Y.	14	2
Cambridge, Mass.	1		Norfolk, Va.	1	
Camden, N. J.	1		Norristown, Pa.	1	
Cape Girardeau, Mo.	1	1	Oakland, Cal.	1	
Charlottesville, Va.	1		Ogden, Utah.	1	
Charleston, S. C.		1	Peoria, Ill.	1	1
Charleston, W. Va.	2		Petersburg, Va.	1	
Chelsea, Mass.	1	1	Philadelphia, Pa.	7	2
Chicago, Ill.	1		Pittsburgh, Pa.	1	
Coatesville, Pa.	2		Portland, Me.	1	
Columbia, S. C.	1		Redlands, Cal.	1	
Dallas, Tex.	1		Richmond, Ind.	1	
Des Moines, Iowa.	5		Richmond, Va.	6	
Detroit, Mich.	5	1	Saginaw, Mich.	1	
Duluth, Minn.	1		St. Louis, Mo.	3	1
Durham, N. C.	1		Salt Lake City, Utah.	1	
Fairmont, W. Va.	2		San Diego, Cal.	1	
Fall River, Mass.	3		San Francisco, Cal.	2	
Fremont, Ohio.	1		Saratoga Springs, N. Y.	1	
Galveston, Tex.	2		Sault Ste. Marie, Mich.	3	1
Greenville, S. C.	1		Sheboygan, Wis.	1	
Hammond, Ind.		1	Somerville, Mass.		1
Hattiesburg, Miss.	1		Springfield, Mass.	2	
Homestead, Pa.	1		Terre Haute, Ind.		1
Houston, Tex.	5		Toledo, Ohio.	5	1
Independence, Kans.	2	1	Trenton, N. J.	3	
Indianapolis, Ind.	3		Uniontown, Pa.	1	
Jacksonville, Ill.	1		Waco, Tex.	2	
Kansas City, Mo.	1	1	Wheeling, W. Va.	5	1
Little Falls, N. Y.	1	1	Wichita, Kans.	1	
Los Angeles, Cal.	6		Wilmington, Del.	2	
Louisville, Ky.	1		Winston-Salem, N. C.	2	
Lynchburg, Va.	1	1	York, Pa.	3	
Macon, Ga.	4		Youngstown, Ohio.	5	
Malden, Mass.	1		Zanesville, Ohio.		1

DIPHTHERIA, MEASLES, SCARLET FEVER, AND TUBERCULOSIS.

State Reports for May, 1918.

State.	Cases reported.			State.	Cases reported.		
	Diphtheria.	Measles.	Scarlet fever.		Diphtheria.	Measles.	Scarlet fever.
District of Columbia	72	865	91	Massachusetts.....	663	6,334	487
Maryland.....	91	3,294	144	Vermont.....	8	161	27

DIPHTHERIA, MEASLES, SCARLET FEVER, AND TUBERCULOSIS—Contd.

City Reports for Week Ended June 1, 1918.

City.	Population as of July 1, 1916 (estimated by U. S. Census Bureau).	Total deaths from all causes.	Diphtheria.		Measles.		Scarlet fever.		Tuberculosis.	
			Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
Over 500,000 inhabitants:										
Baltimore, Md.	589,621	16	16	287	4	10	45	37	35	
Boston, Mass.	756,476	188	47	260	5	25	65	23	49	
Chicago, Ill.	2,497,722	539	98	11	100	3	18	497	74	
Cleveland, Ohio.	674,073	170	10	80	77	9	40	57	22	
Detroit, Mich.	571,784	172	39	2	72	8	22	57	22	
Los Angeles, Cal.	503,812	123	26	77	10	39	22	39	22	
New York, N. Y.	5,602,841	1,181	245	30	716	19	92	141	158	
Philadelphia, Pa.	1,703,518	458	36	4	918	6	32	89	57	
Pittsburgh, Pa.	579,090	7	119	62	16	60	12	11	11	
St. Louis, Mo.	757,309	207	31	62	16	60	12	11	11	
From 300,000 to 500,000 inhabitants:										
Buffalo, N. Y.	468,558	120	11	162	3	14	41	11	11	
Cincinnati, Ohio.	410,476	136	13	123	1	10	23	19	19	
Jersey City, N. J.	306,345	14	31	7	19	17	14	13	12	
Milwaukee, Wis.	436,535	94	5	217	3	23	1	17	14	
Minneapolis, Minn.	363,454	15	1	85	31	3	8	12	13	
Newark, N. J.	408,894	94	18	328	3	11	28	17	22	
New Orleans, La.	371,747	144	40	3	1	23	22	13	6	
San Francisco, Cal.	463,516	137	6	43	11	45	13	11	25	
Seattle, Wash.	348,639	3	25	17	25	11	25	17	25	
Washington, D. C.	363,980	114	9	89	17	25	11	25	17	
From 200,000 to 300,000 inhabitants:										
Columbus, Ohio.	214,878	68	12	1	15	5	9	10	10	
Denver, Colo.	260,800	70	19	23	1	25	13	12	13	
Indianapolis, Ind.	271,708	17	4	9	24	13	12	13	6	
Kansas City, Mo.	297,874	80	5	10	8	1	4	12	13	
Louisville, Ky.	238,910	89	3	4	9	12	6	4	4	
Portland, Oreg.	295,463	72	3	90	9	12	6	4	4	
Providence, R. I.	254,960	73	13	114	2	7	2	18	4	
Rochester, N. Y.	256,417	71	9	73	2	8	18	4	4	
St. Paul, Minn.	217,232	54	19	7	29	1	4	4	4	
From 100,000 to 200,000 inhabitants:										
Atlanta, Ga.	190,558	71	11	1	1	4	13	7	7	
Birmingham, Ala.	181,762	57	7	2	2	10	7	7	7	
Bridgeport, Conn.	121,576	29	4	13	2	16	3	3	3	
Cambridge, Mass.	112,981	24	10	51	4	4	5	5	5	
Camden, N. J.	106,233	3	12	3	4	4	4	4	4	
Dallas, Tex.	124,527	8	2	1	1	10	4	4	4	
Dayton, Ohio.	127,224	2	3	4	3	3	3	3	3	
Des Moines, Iowa.	101,598	2	6	1	9	3	3	3	3	
Fall River, Mass.	128,366	24	3	6	1	9	3	3	3	
Fort Worth, Tex.	104,562	23	4	15	1	4	4	4	4	
Grand Rapids, Mich.	128,291	31	2	12	5	6	3	3	3	
Hartford, Conn.	110,900	4	15	1	4	4	4	4	4	
Houston, Tex.	112,307	28	1	133	6	4	5	5	5	
Lawrence, Mass.	100,560	37	6	1	28	7	7	7	7	
Lowell, Mass.	113,245	36	2	65	2	3	4	4	4	
Lynn, Mass.	102,425	16	3	65	12	23	10	10	10	
Memphis, Tenn.	148,995	55	2	8	2	5	3	3	3	
Nashville, Tenn.	117,057	47	1	2	6	6	2	2	2	
New Bedford, Mass.	118,158	22	4	2	4	6	4	4	4	
New Haven, Conn.	149,885	42	15	1	7	2	2	2	2	
Oakland, Cal.	198,604	34	1	15	4	7	2	2	2	
Omaha, Nebr.	165,470	36	20	2	10	19	1	2	2	
Reading, Pa.	103,381	156	687	48	2	12	8	8	8	
Richmond, Va.	156,687	60	1	19	17	1	1	1	1	
Salt Lake City, Utah.	117,399	4	1	3	1	5	1	1	1	
Seranton, Pa.	146,811	2	3	1	3	3	3	3	3	
Spokane, Wash.	150,323	27	3	1	25	1	2	2	2	
Springfield, Mass.	105,942	43	1	48	1	6	5	5	5	
Syracuse, N. Y.	155,624	43	1	10	28	1	6	6	6	
Tacoma, Wash.	112,770	48	2	8	1	4	1	6	6	
Toledo, Ohio.	191,554	25	2	11	6	2	8	6	6	
Trenton, N. J.	111,593	43	2	7	1	2	2	2	2	
Worcester, Mass.	163,314	35	7	1	2	2	2	2	2	
Youngstown, Ohio.	108,385	35	7	1	2	2	2	2	2	

DIPHTHERIA, MEASLES, SCARLET FEVER, AND TUBERCULOSIS—Contd.

City Reports for Week Ended June 1, 1918—Continued.

City.	Popula- tion as of July 1, 1916 (estimated by U. S. Census Bureau).	Total deaths from all causes.	Diphtheria.		Measles.		Scarlet fever.		Tuber- culosis.	
			Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
From 50,000 to 100,000 inhabi- tants:										
Akron, Ohio.....	85,625	34	3		14		2		4	
Allentown, Pa.....	63,505		2		102		3			
Atlantic City, N. J.....	57,660	7			5				6	
Bayonne, N. J.....	69,893		3		5		1		3	
Berkeley, Cal.....	57,653	6	4		11		1		2	
Binghamton, N. Y.....	53,973	20	3		42		3		4	1
Brockton, Mass.....	67,449	13	1		20		5		5	1
Canton, Ohio.....	60,852	15	1						2	
Charleston, S. C.....	60,734	41								5
Chattanooga, Tenn.....	60,075	3					4		1	2
Covington, Ky.....	57,144	16	2			1			3	2
Duluth, Minn.....	94,495	19	1		10	1			9	
Erie, Pa.....	75,195		1						4	
Evansville, Ind.....	76,078		2	1	70		1		9	
Flint, Mich.....	54,772	9			8			5	5	2
Fort Wayne, Ind.....	76,183	26	6		1				1	1
Harrisburg, Pa.....	72,015		1		48				3	1
Hoboken, N. J.....	77,214	17	6		1					
Holyoke, Mass.....	65,286	9			1				5	3
Johnstown, Pa.....	68,529		2		2		1		5	2
Kansas City, Kans.....	99,497		2		8		1			
Lancaster, Pa.....	50,853		2		13		5		2	
Little Rock, Ark.....	57,343	6	3		3		1			
Malden, Mass.....	51,155	9	1		2		2		4	
Manchester, N. H.....	78,283	21	1		42		2			
Mobile, Ala.....	58,221	24					1		7	4
New Britain, Conn.....	53,794	13	2		5				2	3
Norfolk, Va.....	89,612				1		1			3
Oklahoma City, Okla.....	92,943	21			2		1			3
Passaic, N. J.....	71,744	18	3		65	1	1		2	2
Pawtucket, R. I.....	59,411	18	3		26	2	1			1
Peoria, Ill.....	71,458	36			5					1
Portland, Me.....	63,867	21			1					2
Rockford, Ill.....	55,185	12	1	1	23		1			2
Sacramento, Cal.....	66,895	19	1		3		3		1	2
Saginaw, Mich.....	55,642	16	1		1		1			2
St. Joseph, Mo.....	85,236	24	1	1	1		1		1	1
San Diego, Cal.....	53,330	34		1	3		2			4
Schenectady, N. Y.....	99,519	10	2		13		3		4	
Sioux City, Iowa.....	57,078						3			
Somerville, Mass.....	87,039	16	4		22		1		8	1
Springfield, Ill.....	61,120	29			19					2
Springfield, Ohio.....	51,550	11	1		11		1		5	
Terre Haute, Ind.....	66,083	26	1		5		4		1	
Troy, N. Y.....	77,916	24	2		7		1		1	4
Utica, N. Y.....	85,602	24	1		38		1		5	3
Wichita, Kans.....	70,722				4		1		1	
Wilkes-Barre, Pa.....	76,776		1		13				5	
Wilmington, Del.....	94,265	18			10		1		3	3
Yonkers, N. Y.....	90,838	16	14	1	130		2			1
York, Pa.....	51,656						1		6	
From 25,000 to 50,000 inhabitants:										
Alameda, Cal.....	27,732	4			37		1			1
Austin, Tex.....	34,814	26	2							3
Battle Creek, Mich.....	29,480		2		22		2			
Beaumont, Tex.....	27,711	18								4
Boise, Idaho.....	33,846	1			3		1			
Brookline, Mass.....	32,730	6			13		2			
Burlington, Iowa.....	25,030	1					1			
Butler, Pa.....	27,632		1		1					
Butte, Mont.....	43,425		2		1		13			
Central Falls, R. I.....	25,636				1					
Charleston, W. Va.....	29,941	8	1		2		1			2
Charlotte, N. C.....	39,823				4					1
Chelsea, Mass.....	46,192	15			16		1			1
Chester, Pa.....	41,396				6				1	
Chicopee, Mass.....	29,319	10	3		9		1		1	4
Clinton, Iowa.....	27,386				17					
Cohoes, N. Y.....	25,211									2
Colorado Springs, Colo.....	32,971	11	8		5		3		34	2

DIPHTHERIA, MEASLES, SCARLET FEVER, AND TUBERCULOSIS—Contd.

City Reports for Week Ended June 1, 1918—Continued.

City.	Popula- tion as of July 1, 1916 (estimated by U. S. Census Bureau).	Total deaths from all causes.	Diphtheria.		Measles.		Scarlet fever.		Tuber- culosis.	
			Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
From 25,000 to 50,000 inhabit- ants—Continued.										
Columbia, S. C.	34,611				2				4	
Council Bluffs, Iowa.	31,484	10			2		7			
Cranston, R. I.	25,987	8			6				1	
Cumberland, Md.	26,074	6			10		1		1	1
Danville, Ill.	32,261	10								
Davenport, Iowa.	48,811				4		3			
Dubuque, Iowa.	39,873		3		1					
Durham, N. C.	25,061	8			3					1
Easton, Pa.	30,530		1		6					
East Orange, N. J.	42,458	2			24				3	1
Elgin, Ill.	28,203	9	1							1
Elmira, N. Y.	38,120				67					
Evanston, Ill.	28,591	4					1			
Everett, Mass.	39,233	6	3		4		2			
Everett, Wash.	35,486	10			3					
Fitchburg, Mass.	41,781	13			16	1			1	1
Galveston, Tex.	41,863	12	1							
Green Bay, Wis.	29,353	10								2
Hammond, Ind.	26,171	7		1						
Haverhill, Mass.	48,477	9	2		9	1	1		2	
Hazleton, Pa.	28,491		2		21					
Jackson, Mich.	35,396	10			10		9	1	1	1
Jamestown, N. Y.	36,580				88				7	2
Kalamazoo, Mich.	48,886				1				3	1
Kenosha, Wis.	31,576	3			16					
Knoxville, Tenn.	38,676				3					
La Crosse, Wis.	31,677	6	2	1					1	
Lexington, Ky.	41,997	16			1					3
Lima, Ohio.	35,384	2			3		1			
Lincoln, Nebr.	46,515	12			1					
Long Beach, Cal.	27,587	9	1		16		2		1	
Lorain, Ohio.	36,946		1						1	
Lynchburg, Va.	32,940	9								1
Macon, Ga.	45,757	13			2				2	
Madison, Wis.	30,699	11			3				2	
McKeesport, Pa.	47,521		1		7					1
Medford, Mass.	26,234	8	1		23		3			2
Moline, Ill.	27,451				44		2			
Montclair, N. J.	26,318	3			1					
Montgomery, Ala.	43,285	12							2	
Mount Vernon, N. Y.	37,009	12			9				3	
Muncie, Ind.	25,424	7	2	1					1	1
Muskogee, Okla.	44,210				1					
Nashua, N. H.	27,327	9								
Newburgh, N. Y.	29,603	11	1		1					1
New Castle, Pa.	41,133		2		8					
Newport, Ky.	31,927								3	3
Newport, R. I.	30,108	8	1				1			
New Rochelle, N. Y.	37,759	6	1		4					
Newton, Mass.	43,715	5	1		10				2	
Niagara Falls, N. Y.	37,353	17	1		1		1		2	
Norristown, Pa.	31,401		3		2		1			
Norwalk, Conn.	26,899						1	1		
Oak Park, Ill.	26,654	10	2		9					1
Ogden, Utah.	31,404	10			18		3			
Orange, N. J.	33,080	12	1		32	1			3	2
Oshkosh, Wis.	36,065	8								
Pasadena, Cal.	46,450	13			40		3		5	
Perth Amboy, N. J.	41,185	12			2					1
Petersburg, Va.	25,582	9							1	1
Poughkeepsie, N. Y.	30,390	9	2	1	14		1		1	
Quincy, Ill.	36,798	7	3		7					1
Quincy, Mass.	38,136	7			14		2		6	1
Racine, Wis.	46,486	11			21		4		13	
Roanoke, Va.	43,284	14			13		1		1	
San Jose, Cal.	38,902				8					
Sheboygan, Wis.	28,559	3								
Shenandoah, Pa.	29,201								5	
Springfield, Mo.	40,341	8								
Steubenville, Ohio.	27,445	12	2		1				1	
Superior, Wis.	46,266	6			8		2			

DIPHTHERIA, MEASLES, SCARLET FEVER, AND TUBERCULOSIS—Contd.

City Reports for Week Ended June 1, 1918—Continued.

City.	Popula- tion as of July 1, 1916 (estimated by U. S. Census Bureau).	Total deaths from all causes.	Diphtheria.		Measles.		Scarlet fever.		Tuber- culosis.	
			Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
From 25,000 to 50,000 inhabit- ants—Continued.										
Taunton, Mass.	36,283	6					1		1	1
Topeka, Kans.	48,726		1		5		4			
Waco, Tex.	33,385	19							2	2
Walla Walla, Wash.	25,136		1				2			
Waltham, Mass.	30,570	9			60				2	
Waterloo, Iowa.	35,559	14			3		6			
Watertown, N. Y.	29,894	4				1				1
West Hoboken, N. J.	43,139	11	1		13		2		1	1
Wheeling, W. Va.	43,377	8	1		3					1
Wilmington, N. C.	29,892	15			3					1
Winston-Salem, N. C.	31,155	22			2				3	6
Zanesville, Ohio.	30,863	15								2
From 10,000 to 25,000 inhabitants:										
Aberdeen, S. Dak.	15,218	3								
Abilene, Tex.	14,238						4			
Adams, Mass.	14,214	2								1
Albany, Ga.	10,604				6					
Albuquerque, N. Mex.	14,025	7								2
Alton, Ill.	22,874	7	6							
Amarillo, Tex.	19,124	10	1							
Ann Arbor, Mich.	15,010	13	3		5					
Ansonia, Conn.	16,704	3								
Appleton, Wis.	17,834	7								
Arlington, Mass.	12,811	5			3					3
Asbury Park, N. J.	14,007	5			3					
Astoria, Oreg.	10,363	5			3					1
Attleboro, Mass.	19,282	2			1					
Bakersfield, Cal.	16,874	5			2			2		
Barre, Vt.	12,169	4								1
Beacon, N. Y.	11,555	2								
Beatrice, Nebr.	10,287	4			1					
Bedford, Ind.	10,349	3							1	1
Bellaire, Ohio.	14,348				6				3	
Belleville, N. J.	12,393		1		1					
Beloit, Wis.	18,072	5			17					3
Penton Harbor, Mich.	10,833	4			10					
Berlin, N. H.	13,599	1								
Bethlehem, Pa.	14,142		1		19					
Beverly, Mass.	21,645	3							2	
Billings, Mont.	14,422		1		9					
Bloomfield, N. J.	18,466				1					
Bloomington, Ind.	11,383	3	1				1		1	2
Braddock, Pa.	21,685		1		3					
Bristol, Conn.	15,927								1	
Burlington, Vt.	21,617	2								
Cairo, Ill.	15,794	2	1							1
Cambridge, Ohio.	13,483	5			2					
Canton, Ill.	13,262	5			4					
Cape Girardeau, Mo.	10,775								2	
Carbondale, Pa.	19,242								1	
Carlisle, Pa.	10,726		3							
Carnegie, Pa.	11,692				2					
Centralia, Ill.	11,538				2					
Chanute, Kans.	12,445				14		1			
Cheyenne, Wyo.	11,320		3				2			
Chillicothe, Ohio.	15,470		1		1		2			
Clinton, Mass.	13,075	6			2					
Coatesville, Pa.	14,455				4					
Coffeyville, Kans.	17,548				3		4		1	
Concord, N. H.	22,669	5								
Connellsville, Pa.	15,455						1		6	
Corpus Christi, Tex.	10,432	5							2	
Corsicana, Tex.	10,022	5							1	
Cortland, N. Y.	13,069	4								
Cumberland, R. I.	10,848		1		2		1			
Dedham, Mass.	10,433	1								1
Dover, N. H.	13,272	6								
Dunmore, Pa.	20,776				1					
East Providence, R. I.	18,113		2							
Eau Claire, Wis.	18,807				29		2		2	
Englewood, N. J.	12,231	3			13					

¹ Population April 15, 1910; no estimate made.

DIPHTHERIA, MEASLES, SCARLET FEVER, AND TUBERCULOSIS—Contd.

City Reports for Week Ended June 1, 1918—Continued.

City.	Population as of July 1, 1916 (estimated by U. S. Census Bureau).	Total deaths from all causes.	Diphtheria.		Measles.		Scarlet fever.		Tuberculosis.	
			Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
From 10,000 to 25,000 inhabitants—Continued.										
Enid, Okla.	20,307	2								
Fairmont, W. Va.	15,506				1					
Fargo, N. Dak.	17,389	3					1			
Farrell, Pa.	10,190				1					
Findlay, Ohio.	14,858	3			32					
Fond du Lac, Wis.	21,113	8					3	1		
Fort Collins, Colo.	11,451	6			1					
Fort Dodge, Iowa.	20,648						1			
Fort Scott, Kans.	10,550	2								
Fostoria, Ohio.	10,770	4								
Frederick, Md.	11,112	3			8		1			
Fremont, Ohio.	10,582				2		3			
Fulton, N. Y.	11,908	6			6					
Galesburg, Ill.	24,276	11			4					
Gardner, Mass.	17,140		5		4				2	
Geneva, N. Y.	13,711	3			8					
Granite City, Ill.	15,142	6			1		1			
Greeley, Colo.	11,420		1		2					
Greenfield, Mass.	11,998	5			2		1			
Greensboro, N. C.	19,577	7			1					
Greenville, S. C.	18,181	4			1					
Greenwich, Conn.	19,159				7					
Hackensack, N. J.	16,945	6	1		16					
Hancock, Mich.	12,079	1								
Harrison, N. J.	16,950				9					
Hattiesburg, Miss.	16,482								2	
Henderson, Ky.	12,192	1								
Homestead, Pa.	22,466				5		3			
Hornell, N. Y.	14,685	1			50					
Hoquiam, Wash.	11,666						5			
Hudson, N. Y.	12,705								3	
Independence, Kans.	14,506	6			1					1
Independence, Mo.	11,672	2							1	
Iola, Kans.	11,068				2				2	
Iowa City, Iowa.	11,413				1					
Ishpeming, Mich.	12,448		1	1	1					
Ithaca, N. Y.	15,848	5							3	
Jacksonville, Ill.	15,481	11								
Janesville, Wis.	14,339	1					1			
Kankakee, Ill.	14,230				3					
Keary, N. J.	23,539	8			6		2			
Kokomo, Ind.	20,930	6			1				2	1
Lackawanna, N. Y.	15,987	1							1	
La Fayette, Ind.	21,286	10	1							
Laurel, Miss.	11,779						1			
Leavenworth, Kans.	19,363	9	1		1		1		3	
Lebanon, Pa.	20,779		1				3			
Little Falls, N. Y.	13,451	7					1			
Long Branch, N. J.	15,395	4			34				2	
Malanoy City, Pa.	17,463		1		1					
Manchester, Conn.	15,551	2			1				4	2
Manitowoc, Wis.	13,805	4	1						1	1
Marinette, Wis.	14,610	4			2					
Marlboro, Mass.	15,187	3								
Marquette, Mich.	12,409	4					3			
Marshall, Tex.	13,712	6							1	
Martinsburg, W. Va.	12,666	1								
Mason City, Iowa.	14,457	4		2			2			
Massillon, Ohio.	15,310									
Mattoon, Ill.	12,582	4			15					
McKees Rocks, Pa.	19,949		1		26					
Melrose, Mass.	17,445	2					1			
Middletown, N. Y.	15,810	1			2				3	1
Middletown, Ohio.	15,625	6			5		1			
Millford, Mass.	14,110	4								
Mishawaka, Ind.	16,385	3								
Missoula, Mont.	18,214	4	8							
Monessen, Pa.	21,630		1							
Morgantown, W. Va.	13,709	3					6		1	1
Morristown, N. J.	13,284	2			4					
Moundsville, W. Va.	11,153	1								

* Population Apr. 15, 1910; no estimate made.

DIPHTHERIA, MEASLES, SCARLET FEVER, AND TUBERCULOSIS—Contd.

City Reports for Week Ended June 1, 1918—Continued.

City.	Popula- tion as of July 1, 1916 (estimated by U. S. Census Bureau).	Total deaths from all causes.	Diphtheria.		Measles.		Scarlet fever.		Tuber- culosis.	
			Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
From 10,000 to 25,000 inhabit- ants—Continued.										
Mount Carmel, Pa.	20,268	1							2	
Nanticoke, Pa.	23,126				1					
Natick, Mass.	10,102		3	1	12				2	
New Albany, Ind.	23,629	7							2	2
Newburyport, Mass.	15,243	4			4				2	
New Castle, Ind.	13,241	2								
New London, Conn.	20,985	9	2				3		2	1
North Adams, Mass.	22,049	5	1						2	2
Northampton, Mass.	19,926	6	1		6				1	
North Attleboro, Mass.	11,014				3					
North Braddock, Pa.	15,148				1					
North Little Rock, Ark.	14,907	2			1				2	1
North Tonawanda, N. Y.	13,768	5								
North Yakima, Wash.	20,951				18					
Ossining, N. Y.	13,705		1		33				2	
Oswego, N. Y.	24,101				4				2	
Palestine, Tex.	11,854	2							2	1
Parkersburg, W. Va.	20,612	5							1	1
Peabody, Mass.	18,360	4			8				2	
Peekskill, N. Y.	18,530	6								
Piqua, Ohio.	14,152	3			1					
Pittston, Pa.	18,599				3					
Plainfield, N. J.	23,805	5			2		1			
Plattsburgh, N. Y.	12,837	3								1
Pontiac, Mich.	17,524	9			12		8			2
Port Chester, N. Y.	16,183	2			5				1	
Portsmouth, N. H.	11,666		1							
Pottsville, Pa.	22,372		1		5					
Provo, Utah.	10,645	1								
Rahway, N. J.	10,219	5			4					
Raleigh, N. C.	20,127	17		1	2		1		1	1
Redlands, Cal.	14,000	2	1		7					
Richmond, Ind.	24,697	7								
Riverside, Cal.	19,763	10			1					
Rocky Mount, N. C.	12,067	6							1	1
Rome, N. Y.	23,737									
Rutland, Vt.	14,831	4			3	1				
St. Cloud, Minn.	11,817	8							1	
San Bernardino, Cal.	16,945				4					
Sandusky, Ohio.	20,193	6			2				2	
Santa Ana, Cal.	10,627	7			18		1			1
Santa Barbara, Cal.	14,846	10								2
Santa Cruz, Cal.	14,594	3			3					
Saratoga Springs, N. Y.	13,821	5			9					
Sault Ste. Marie, Mich.	13,919	2								
Sharon, Pa.	18,646				34					
Sioux Falls, S. Dak.	16,499	3								
Southbridge, Mass.	14,205	2								
Spartanburg, S. C.	21,365	7	1		3					1
Steelton, Pa.	15,548						1		1	
Streator, Ill.	14,304	5								
Tiffin, Ohio.	12,867	2								
Trinidad, Colo.	13,875				2					
Vallejo, Cal.	13,461	3			1					
Vancouver, Wash.	13,180				2					
Wakefield, Mass.	12,733		1		1				2	
Warren, Ohio.	13,059	12			3					
Warren, Pa.	14,737				2					
Washington, Pa.	21,618		3							
Watertown, Mass.	14,867	2	1		1				1	
Wausau, Wis.	19,230	4								
West Chester, Pa.	13,176		1		7					
Westfield, Mass.	18,391	8			3		1			3
West Orange, N. J.	13,550	1			20				1	
West Warwick, R. I.	15,782	4	1							
Wilkinsburg, Pa.	23,228				6		1			
Winchester, Mass.	10,603	1			1					
Winona, Minn.	18,583	3								
Winthrop, Mass.	12,692		3		4				1	
Woburn, Mass.	15,969	5								

¹ Population Apr. 15, 1910; no estimate made.

FOREIGN.

Plague on Vessel.

Two cases of plague were reported, May 9, 1918, on the steamship *Quilpue*, at Callao, Peru.

CUBA.

Communicable Diseases—Habana.

Communicable diseases have been notified at Habana as follows:

Disease.	May 11-20, 1918.		Remain- ing un- der treat- ment May 20, 1918.	Disease.	May 11-20, 1918.		Remain- ing un- der treat- ment May 20, 1918.
	New cases.	Deaths.			New cases.	Deaths.	
Cerebrospinal men- ingitis.....	2	.....	13	Measles.....	.....	.....	6
Diphtheria.....	4	.....	16	Paratyphoid fever..	3	.....	23
Leprosy.....	.....	.....	13	Scarlet fever.....	3	.....	25
Malaria.....	9	.....	226	Typhoid fever.....	42	3	118
				Varicella.....	3	.....	13

¹ Foreign, 3.

² From the interior, 25.

³ From the interior, 1.

⁴ From the interior, 61; from Regla, 3; foreign, 1.

ECUADOR.

Yellow Fever—Guayaquil.

Yellow fever was reported present at Guayaquil, June 8, 1918.

GREAT BRITAIN.

Examination of Rats—Liverpool.

During the period from March 10 to May 4, 1918, 1,332 rats were examined at Liverpool, England. No plague infection was found.

PERU.

Plague—February 16-March 31, 1918.

During the period from February 16 to March 31, 1918, 113 cases of plague were notified in Peru. The cases were distributed according to departments as follows: Ancachs, 5 cases; Callao, 1 case; Junin, 1 case; Lambayeque, 16 cases; Libertad, 68 cases; Lima, 22 cases.

CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER.**Reports Received During Week Ended June 21, 1918.¹****CHOLERA.**

Place.	Date.	Cases.	Deaths.	Remarks.
India:				
Rangoon.....	Mar. 17-23.....	2	2	
Indo-China:				
Saigon.....	Apr. 15-28.....	13	10	
Philippine Islands:				
Provinces.....				Apr. 14-20, 1918: Cases, 165; deaths, 105.
Bohol.....	Apr. 14-20.....	14	14	
Capiz.....	do.....	11	8	
Cebu.....	do.....	18	14	
Misamis.....	do.....	103	55	
Surigao.....	do.....	19	14	

PLAGUE.

India:				
Bassein.....	Feb. 17-23.....		12	
Honzada.....	do.....		12	
Karachi.....	Mar. 24-Apr. 6.....	167	118	
Moulmein.....	Feb. 17-23.....		9	
Myingyan.....	Feb. 10-16.....		16	
Pegu.....	Feb. 17-23.....		1	
Prome.....	do.....		5	
Rangoon.....	Mar. 17-23.....	70	65	
Toungoo.....	Feb. 17-23.....		11	
Indo-China:				
Saigon.....	Apr. 15-28.....	25	11	
Peru.....				Feb. 16-Mar. 31, 1918: Cases, 113.
Departments—				
Ancachs.....	Feb. 16-Mar. 31.....	5		
Callao.....	do.....	1		
Junin.....	do.....	1		
Lambayeque.....	do.....	16		
Libertad.....	do.....	68		
Lima.....	do.....	22		
Siam:				
Bangkok.....	Apr. 7-20.....	22	17	
On vessel:				
S. S. Quilpue.....	May 9.....	2		At Callao, Peru.

SMALLPOX.

Arabia:				
Aden.....	Apr. 4-10.....		1	
Canada:				
Nova Scotia—				
Halifax.....	May 26-June 1.....	3		
Sydney.....	do.....	1		
Prince Edward Island—				
Charlotte Town.....	May 30-June 5.....	1		
China:				
Antung.....	Apr. 7-20.....	1	1	
Tientsin.....	May 5-11.....	1		
Colombia:				
Cartagena.....	May 21.....			Present in suburbs.
India:				
Karachi.....	May 24-Apr. 6.....	53	35	
Rangoon.....	Mar. 17-23.....	10	4	
Indo-China:				
Saigon.....	Apr. 15-28.....	159	45	
Newfoundland:				
Badger.....	May 25-31.....	2		
Conche.....	do.....			Present.
Englee.....	do.....			Do.
Philippine Islands:				
Manila.....	Apr. 14-May 4.....	141	76	
Siam:				
Bangkok.....	Apr. 7-20.....	5	4	
Straits Settlements:				
Penang.....	Apr. 7-13.....	5		
Singapore.....	Mar. 31-Apr. 23.....	16	11	

¹ From medical officers of the Public Health Service, American consuls, and other sources.

CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER— Continued.

Reports Received During Week Ended June 21, 1918—Continued.

TYPHUS FEVER.

Place.	Date.	Cases.	Deaths.	Remarks.
China:				
Antung.....	Apr. 7-13.....	1	.....
Great Britain:				
Glasgow.....	May 12-18.....	4	*	
Spain:				
Lira.....	Apr. 6.....	11	3	Vicinity of Coreubion, Province of Coruna.
Tunisia:				
Tunis.....	May 4-17.....	2	2	

YELLOW FEVER.

Ecuador:				
Guayaquil.....	June 8.....			Present.

Reports Received from Dec. 29, 1917, to June 14, 1918.

CHOLERA.

Place.	Date.	Cases.	Deaths.	Remarks.
China:				
Antung.....	Nov. 26-Dec. 2.....	3	1	
India:				
Bombay.....	Oct. 28-Dec. 13.....	19	14	
Do.....	Dec. 30-Mar. 9.....	219	194	
Calcutta.....	Sept. 16-Dec. 15.....	.....	135	
Do.....	Dec. 30-Mar. 16.....	.....	155	
Karachi.....	Dec. 30-Feb. 23.....	25	6	
Madras.....	Nov. 25-Dec. 22.....	2	2	
Do.....	Dec. 30-Mar. 16.....	47	26	
Rangoon.....	Nov. 4-Dec. 22.....	5	5	
Do.....	Dec. 30-Mar. 16.....	11	6	
Indo-China:				
Provinces.....				Sept. 1-Dec. 31, 1917: Cases, 168; deaths, 95.
Anam.....	Sept. 1-Dec. 31.....	24	15	
Cambodia.....	do.....	74	54	
Cochin-China.....	do.....	58	24	
Saigon.....	Nov. 22-Dec. 9.....	4	3	
Do.....	Feb. 4-Apr. 14.....	15	8	
Kwang-Chow-Wan.....	Sept. 1-30.....	10	2	
Java:				
East Java.....	Oct. 28-Nov. 3.....	1	1	
West Java.....				
Batavia.....	Oct. 10-Dec. 27.....	49	23	Oct. 19-Dec. 27, 1917: Cases, 102; deaths, 56. Dec. 28, 1917-Feb. 21, 1918: Cases, 38; deaths, 7.
Do.....	Dec. 28-Feb. 21.....	35	1	
Palestine:				Dec. 28, 1917-Feb. 24, 1918: Cases, 121.
Deir Seneid.....	Dec. 28-Feb. 24.....	65	.....
Jaffa.....	Feb. 17-24.....	4	.....
Ludd.....	Mar. 22.....	1	.....
Sukkarieh.....	Dec. 28-Mar. 22.....	24	.....
Persia:				
Achraf.....	July 30-Aug. 16.....	90	88	July 30-Sept. 3, 1917: Cases, 384; deaths, 276.
Astrabad.....	July 31.....	.....	.....
Barfush.....	July 1-Aug. 16.....	39	25	Present.
Bender Bouchir.....				Present. On Persian Gulf. 25 cases reported July 31, 1917.
Chahmirzad.....				
Chahrastragh.....	June 15-July 25.....	10	8	
Chroud.....	Aug. 26-Sept. 3.....	4	2	
Damghan.....	Aug. 26.....	.....	.....	Present.
Kharek.....	May 28-June 11.....	21	13	
Meched.....	Aug. 18-Sept. 2.....	174	82	
Ouzoun Pare.....	Aug. 8.....	.....	.....	Do.
Sabzevar.....	Aug. 24.....	.....	.....
Sari.....	July 3-29.....	273	144	
Semman.....	Aug. 31-Sept. 2.....	14	5	
Yekchambe Bazar.....	June 3.....	6	.....

CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER— Continued.

Reports Received from Dec. 29, 1917, to June 14, 1918—Continued.

CHOLERA—Continued.

Place.	Date.	Cases.	Deaths.	Remarks.
Philippine Islands:				
Provinces.....				July 1-Dec. 29, 1917: Cases, 5,964; deaths, 3,655. Dec. 30, 1917-Apr. 13, 1918: Cases, 1,791; deaths, 1,285.
Antique.....	Nov. 18-Dec. 1....	48	32	
Do.....	Feb. 3-9.....	4	4	
Bohol.....	Nov. 18-Dec. 29....	169	111	
Do.....	Dec. 30-Apr. 13....	567	446	
Capiz.....	Nov. 25-Dec. 29....	27	21	
Do.....	Dec. 30-Mar. 23....	219	182	
Cebu.....	Dec. 23-29.....	3		
Do.....	Dec. 30-Mar. 30....	100	54	
Davao.....	Mar. 10-Apr. 13....	12	11	
Iloilo.....	Nov. 25-Dec. 29....	179	135	
Do.....	Dec. 30-Mar. 2....	97	63	
Leyte.....	Nov. 25-Dec. 22....	13	12	
Do.....	Feb. 3-Mar. 16....	50	38	
Mindanao.....	Nov. 25-Dec. 29....	337	196	
Do.....	Dec. 30-Feb. 9....	341	220	
Misamis.....	Feb. 24-Apr. 6....	154	98	
Occidental Negros.....	Nov. 25-Dec. 22....	177	123	
Do.....	Jan. 13-Apr. 6....	146	88	
Oriental Negros.....	Nov. 25-Dec. 29....	99	62	
Do.....	Dec. 30-Mar. 30....	23	15	
Romblon.....	Nov. 25-Dec. 1....	1	1	
Surigao.....	Feb. 24-Apr. 13....	43	38	
Zamboanga.....	Feb. 24-Apr. 6....	35	29	
Russia:				Present.
Tashkentnine.....	May 13.....			Do.
Tzaritsin.....	do.....			
Siam:				
Bangkok.....	Sept. 16-22.....	1	1	
Turkey in Asia:				
Bagdad.....	Nov. 1-15.....		40	

PLAGUE.

Brazil:				
Bahia.....	Nov. 4-Dec. 15....	4	4	
Do.....	Dec. 30-Feb. 23....	4	3	
Rio de Janeiro.....	Dec. 23-29.....	1		
Do.....	Jan. 6-12.....	1	1	
British East Africa:				
Mombasa.....	Oct. 1-Dec. 31....	31	18	
British Gold Coast:				
Achim.....	Jan. 8.....			Present.
Ceylon:				
Colombo.....	Oct. 14-Dec. 1....	14	13	
Do.....	Dec. 30-Mar. 23....	37	33	
China:				Present in North China in Jan. 7, 1918; pneumonic form.
Anhui Province—				Pneumonic.
Fengyanghsien.....	Feb. 27.....		9	Do.
Pengpu.....	do.....		1	
Chili Province—				
Kalgan.....				Vicinity. Present in February, 1918.
Fukien Province—				Present in vicinity.
Amoy.....	Mar. 11-31.....			
Hongkong.....	Apr. 14-20.....	1	1	
Kiangsu Province—				
Nanking.....	Mar. 17-Apr. 5....	19	15	
Shanshi Province.....				Present in February, 1918; 116 cases estimated.
Ecuador:				
Babahoyo.....	Feb. 1-15.....	1		
Duran.....	Feb. 16-Mar. 30....	2	1	
Guayaquil.....	Sept. 1-Nov. 30....	68	24	Reported outbreak occurring about Jan. 17, 1918.
Do.....	Feb. 1-15.....	44	18	
Do.....	Mar. 1-30.....	37	14	
Egypt:				Jan. 1-Nov. 15, 1917: Cases, 728; deaths, 398.
Alexandria.....	Jan. 14-28.....	1	2	
Cairo.....	Dec. 17-23.....	2		
Port Said.....	July 2-Dec. 23....	13	7	
Suez.....	July 2-Oct. 20....	62	38	
Hawaii:				
Laupahoe.....	May 5.....	1	1	

CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER.— Continued.

Reports Received from Dec. 29, 1917, to June 14, 1918—Continued.

PLAGUE—Continued.

Place.	Date.	Cases.	Deaths.	Remarks.
India.....				July 1-Dec. 29, 1917: Cases, 289,258; deaths, 212,022. Dec. 30, 1917-Feb. 23, 1918: Cases, 276,768; deaths, 221,858.
Bassein.....	Dec. 9-29.....		8	
Do.....	Dec. 30-Mar. 16.....	181		
Bombay.....	Oct. 28-Dec. 29.....	147	123	
Do.....	Dec. 30-Mar. 9.....	275	213	
Calcutta.....	Sept. 16-29.....		2	
Do.....	Dec. 30-Feb. 2.....		4	
Henzada.....	Oct. 21-27.....		1	
Do.....	Jan. 5-Mar. 16.....		117	
Karachi.....	Oct. 21-Dec. 29.....	27	20	
Do.....	Dec. 30-Mar. 14.....	94	72	
Madras.....	Feb. 3-Mar. 9.....	3	3	
Madras Presidency.....	Oct. 31-Nov. 24.....	5,786	4,519	
Do.....	Jan. 6-Mar. 16.....	11,649	9,012	
Mandalay.....	Oct. 14-Nov. 17.....		89	
Do.....	Dec. 30-Mar. 16.....		1,065	
Moulmein.....	Feb. 17-Mar. 16.....		74	
Myingyan.....	Dec. 30-Mar. 16.....		490	
Pegu.....	Feb. 10-Mar. 16.....		5	
Prone.....	Jan. 5-12.....		1	
Rangoon.....	Oct. 21-Dec. 22.....		55	
Do.....	Dec. 30-Mar. 16.....	697	639	
Toungoo.....	Dec. 9-29.....		5	
Do.....	Dec. 30-Mar. 16.....		69	
Indo-China:				Sept. 1-Dec. 31, 1917: Cases, 171; deaths, 128.
Provinces.....				
Anam.....	Sept. 1-Dec. 31.....	45	28	
Cambodia.....	do.....	95	83	
Cochin-China.....	do.....	31	17	
Saigon.....	Oct. 31-Dec. 23.....	17	6	
Do.....	Dec. 31-Apr. 14.....	173	96	
Java:				
East Java.....				Oct. 8-Dec. 31, 1917: Cases, 196; deaths, 193.
Do.....				Jan. 1-Feb. 4, 1918: Cases, 82; deaths, 81.
Residences—				
Kediri.....	Oct. 8-Dec. 31.....	1	1	
Madioen.....	do.....	49	49	
Samarang.....	do.....	110	109	
Surabaya.....	do.....	25	23	
Do.....	Jan. 15-Feb. 4.....	17	17	
Surakarta.....	Oct. 8-Dec. 31.....	11	11	
West Java.....				Nov. 25-Dec. 9, 1917: Cases, 45; deaths, 45. Dec. 1, 1917-Jan. 15, 1918: Cases, 106.
Peru:				
Ancachs Department—				
Casma.....	Dec. 1-Jan. 15.....	2		
Lambayeque Department.....	do.....	22		At Chiclayo, Ferrenafe, Jayanca, Lambayeque.
Libertad Department.....	do.....	72		At Guadalupe, Mansiche, Pacasmayo, Salaverry, San Jose, San Pedro, and country district of Trujillo.
Lima Department.....	do.....	9		City and country.
Piura Department—				
Catacaos.....	do.....	1		
Senegal:				
St. Louis.....	Feb. 2.....			Present.
Siam:				
Bangkok.....	Sept. 16-Dec. 23.....	13	9	
Do.....	Jan. 13-Mar. 16.....	37	27	
Straits Settlements:				
Penang.....	Mar. 17-23.....	1		
Singapore.....	Oct. 28-Dec. 29.....	5	7	
Do.....	Jan. 6-Mar. 23.....	81	72	

CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER— Continued.

Reports Received from Dec. 29, 1917, to June 14, 1918—Continued.

SMALLPOX.

Place.	Date.	Cases.	Deaths.	Remarks.
Algeria:				
Algiers.....	Nov. 1-Dec. 31....	3	2	
Do.....	Jan. 1-Apr. 23....	249	6	
Australia:				
New South Wales.....				July 12-Dec. 20, 1917: Cases, 36; Jan. 4-17, 1918: Case, 1. Newcastle district.
Abermain.....	Oct. 25-Nov. 29....	3		
Cessnock.....	July 12-Oct. 11....	7		
Eumangla.....	Aug. 15.....	1		
Kurri Kurri.....	Dec. 5-20.....	2		
Mungindi.....	Aug. 13.....	1		
Warren.....	July 12-Oct. 25....	22		
Do.....	Jan. 1-17.....	1		
Brazil:				
Bahia.....	Nov. 10-Dec. 8....	3		
Pernambuco.....	Nov. 1-15.....	1		
Rio de Janeiro.....	Sept. 30-Dec. 29....	703	190	
Do.....	Dec. 30-Mar. 23....	251	84	
Sao Paulo.....	Oct. 29-Nov. 4....		2	
British East Africa:				
Mombasa.....	Oct. 1-Dec. 31....	9	5	
Canada:				
British Columbia—				
Vancouver.....	Jan. 13-Mar. 9....	5		
Victoria.....	Jan. 7-Feb. 2....	2		
Manitoba—				
Winnipeg.....	Dec. 30-May 25....	5		
New Brunswick—				
Kent County.....	Dec. 4.....			Outbreak. On main line Canadian Ry., 25 miles north of Moncton.
Do.....	Jan. 22.....	40		In 7 localities.
Northumberland County.....	do.....	41		In 5 localities.
Restigouche County.....	Jan. 18.....	60		
St. John County—				
St. John.....	Mar. 3-May 25....	27		May 13, 1918: Cases present, 14.
Victoria County.....	Jan. 2.....	10		At Limestone and a lumber camp.
Westmoreland County—				
Moncton.....	Jan. 29-May 25....	22		
York County.....	Jan. 22.....	8		
Nova Scotia—				
Cape Sable Island.....				Present May 8 at Clarks Harbor.
Halifax.....	Feb. 24-May 25....	25		
Sydney.....	Feb. 3-May 25....	27		
Ontario—				
Arnprior.....	Mar. 31-Apr. 6....		1	
Hamilton.....	Dec. 16-22.....	1		
Do.....	Jan. 13-19.....	2		
Ottawa.....	Mar. 4-24.....	5		
Sarnia.....	Dec. 9-15.....	1		
Do.....	Jan. 6-May 18....	34		
Toronto.....	Feb. 10-Apr. 6....	2		
Windsor.....	Dec. 30-Jan. 5....	1		
Prince Edward Island—				
Charlottetown.....	Feb. 7-13.....	1		
Quebec—				
Montreal.....	Dec. 16-Jan. 5....	5		
Do.....	Jan. 6-Apr. 6....	12		
Quebec.....	Apr. 21-May 11....	3		
China:				
Amoy.....	Oct. 22-Dec. 30....			Present.
Do.....	Dec. 31-Apr. 15....			Do.
Antung.....	Dec. 2-23.....	14	2	
Do.....	Jan. 7-Apr. 27....	13	3	
Changsha.....	Jan. 28-Mar. 10....	6	1	
Chefoo.....	Jan. 27-Feb. 9....			Do.
Chungking.....	Nov. 11-Dec. 29....			Do.
Do.....	Dec. 30-Apr. 6....			Do.
Dairen.....	Nov. 18-Dec. 22....	3	1	
Do.....	Dec. 30-Apr. 27....	90	12	
Hankow.....	Feb. 25-Mar. 3....	1		
Harbin.....	May 14-June 30....	20		Chinese Eastern Ry.
Do.....	July 1-Dec. 2....	7		Do.
Hongkong.....	Dec. 23-29.....	1		
Do.....	Jan. 26-Apr. 13....	22	10	
Hungtshotze Station.....	Oct. 28-Nov. 4....	1		Do.

CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER— Continued.

Reports Received from Dec. 29, 1917, to June 14, 1918—Continued.

SMALLPOX—Continued.

Place.	Date.	Cases.	Deaths.	Remarks.
China—Continued.				
Manchuria Station.....	May 14-June 30...	6	.....	Chinese Eastern Ry.
Do.....	July 1-Dec. 2.....	3	.....	Do.
Mukden.....	Nov. 11-21.....	.....	.....	Present.
Do.....	Feb. 10-Mar. 30.....	.....	.....	Do.
Nanking.....	Feb. 3-Apr. 6.....	.....	.....	Do.
Shanghai.....	Nov. 18-Dec. 23.....	41	91	Cases, foreign; deaths among natives.
Do.....	Dec. 31-Apr. 1.....	38	119	Do.
Swatow.....	Jan. 18.....	.....	.....	Unusually prevalent.
Tientsin.....	Nov. 11-Dec. 22.....	13	.....
Do.....	Dec. 30-Apr. 27.....	49	.....
Tsingtau.....	Feb. 4-Apr. 28.....	11	2	
Cuba:				
Habana.....	Jan. 7.....	1	.....	Nov. 8, 1917: 1 case from Coruna;
				Dec. 5, 1917, 1 case.
Marianao.....	Jan. 8.....	1	.....	6 miles distant from Habana.
Ecuador:				
Guayaquil.....	Sept. 1-Nov. 30.....	26	2	
Do.....	Feb. 1-Mar. 31.....	4	3	
Egypt:				
Alexandria.....	Nov. 12-18.....	2	1	
Do.....	Jan. 8-Apr. 15.....	11	.....
Cairo.....	July 23-Nov. 18.....	6	1	
France:				
Lyon.....	Nov. 18-Dec. 16.....	6	3	
Do.....	Jan. 7-Feb. 17.....	11	2	
Marseille.....	Jan. 1-31.....	.....	2	
Paris.....	Jan. 27-Apr. 20.....	11	5	
Rouen.....	Mar. 31-Apr. 27.....	43	10	Including varioloid.
Great Britain:				
Cardiff.....	Feb. 3-9.....	4	.....
Hull.....	Mar. 17-30.....	3	.....
Greece:				
Saloniki.....	Jan. 27-Mar. 16.....	.....	9	
Honduras:				
Santa Barbara Department.	Jan. 1-7.....	.....	.....	Present in interior.
India:				
Bombay.....	Oct. 21-Dec. 29.....	50	12	
Do.....	Dec. 31-Mar. 9.....	918	381	
Calcutta.....	Jan. 27-Mar. 16.....	.....	34	
Karachi.....	Nov. 18-Dec. 29.....	4	2	
Do.....	Jan. 27-Mar. 14.....	56	31	
Madras.....	Oct. 31-Dec. 29.....	20	8	
Do.....	Dec. 30-Mar. 16.....	157	140	Nov. 11-16, 1917: 10 cases with 4 deaths; imported on s. s. Menesha from Basreh.
Rangoon.....	Oct. 28-Dec. 22.....	6	1	
Do.....	Dec. 30-Mar. 16.....	80	19	
Indo-China:				
Provinces.				
Anam.....	Sept. 1-Dec. 31.....	210	30	Sept. 1-Dec. 31, 1917: Cases, 600; deaths, 180.
Cambodia.....	do.....	19	11	
Cochin-China.....	do.....	440	133	
Saigon.....	Oct. 20-Dec. 30.....	120	26	
Do.....	Dec. 31-Apr. 14.....	1,407	437	
Laos.....	Oct. 1-Dec. 31.....	8	1	
Tonkin.....	Sept. 1-Dec. 31.....	18	5	
Italy:				
Castellamare.....	Dec. 10.....	2	.....	Among refugees.
Florence.....	Dec. 1-15.....	17	4	
Genoa.....	Dec. 2-31.....	11	3	
Do.....	Jan. 2-Apr. 15.....	52	9	
Leghorn.....	Jan. 7-Apr. 7.....	33	7	
Messina.....	Jan. 3-19.....	1	.....
Milan.....	.....	.....	.....	Oct. 1-Dec. 31, 1917: Cases, 32.
Naples.....	To Dec. 10.....	2	.....	Among refugees.
Taormina.....	Jan. 20-Feb. 9.....	6	.....
Turin.....	Oct. 29-Dec. 29.....	123	120	
Do.....	Jan. 21-Apr. 7.....	96	10	
Japan:				
Kobe.....	Apr. 21-27.....	1	.....
Nagasaki.....	Jan. 14-May 5.....	18	4	
Nagoya.....	Mar. 24-Apr. 13.....	3	.....
Taihoku.....	Dec. 15-21.....	1	.....	Island of Taiwan (Formosa).
Do.....	Jan. 8-Apr. 22.....	76	21	Do.
Tokyo.....	Feb. 11-Apr. 22.....	40	.....	City and suburbs.
Yokohama.....	Jan. 17-Feb. 3.....	63	.....

CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER— Continued.

Reports Received from Dec. 29, 1917, to June 14, 1918—Continued.

SMALLPOX—Continued.

Place.	Date.	Cases.	Deaths.	Remarks.
Java:				
East Java.....	Oct. 7-Dec. 23.....	50		Dec. 25-31, 1917: Cases, 7. Jan.
Surabaya.....	Dec. 25-31.....	1		1-Feb. 4, 1918: Cases, 14.
Do.....	Jan. 29-Feb. 4.....	1		
Mid-Java.....				Oct. 10-Dec. 26, 1917: Cases, 86;
Samarang.....	Nov. 6-Dec. 12.....	4	1	death, 1. Dec. 28, 1917-Feb.
				13, 1918: Cases, 41.
West Java.....				Oct. 19-Dec. 27, 1917: Cases, 231;
Batavia.....	Nov. 2-8.....	1		deaths, 36. Dec. 28, 1917-Feb.
Do.....	Feb. 1-7.....	1		21, 1918: Cases, 257; deaths, 60.
Mesopotamia:				
Bagdad.....	Jan. 1-31.....		10	
Mexico:				
Aguascalientes.....	Feb. 4-17.....		2	
Ciudad Juarez.....	Mar. 3-June 1.....	4	2	
Guadalajara.....	Mar. 1-Apr. 30.....	24	5	
Mazatlan.....	Dec. 5-11.....		1	
Do.....	Jan. 29-Apr. 2.....	4	4	
Mexico City.....	Nov. 11-Dec. 29.....	16		
Do.....	Dec. 30-May 11.....	146		
Piedras Negras.....	Jan. 11.....	200		
Vera Cruz.....	Jan. 20-Apr. 28.....	16	3	
Newfoundland:				
St. Johns.....	Dec. 8-Jan. 4.....	29		
Do.....	Jan. 5-May 24.....	108		
Trepassey.....	Jan. 4.....			Outbreak with 11 cases reported.
Philippine Islands:				
Manila.....	Oct. 28-Dec. 8.....	5		
Do.....	Feb. 3-Apr. 20.....	215	94	Varioloid, 224.
Porto Rico:				
San Juan.....	Jan. 28-Apr. 7.....	37		Of these, 36 varioloid.
Portugal:				
Lisbon.....	Nov. 4-Dec. 15.....	2		
Do.....	Dec. 30-May 6.....	38		
Portuguese East Africa:				
Lourenço Marquez.....	Aug. 1-Dec. 31.....		16	
Do.....	Jan. 1-31.....		6	
Russia:				
Archangel.....	Sept. 1-Oct. 31.....	7		
Moscow.....	Aug. 26-Oct. 6.....	22	2	
Petrograd.....	Aug. 31-Nov. 18.....	76	3	
Vladivostok.....	Apr. 19-24.....	6	2	
Siam:				
Bangkok.....	Nov. 25-Dec. 1.....	1	1	
Do.....	Jan. 6-Mar. 16.....	26	14	
Spain:				
Coruna.....	Dec. 2-15.....		4	
Do.....	Jan. 20-Apr. 6.....		19	
Madrid.....	Jan. 1-Mar. 31.....		16	Jan. 1-Dec. 31, 1917: Deaths, 77.
Malaga.....	Oct. 1-31.....		19	
Seville.....	Oct. 1-Dec. 30.....		68	
Do.....	Jan. 1-31.....		20	
Valencia.....	Jan. 27-Feb. 2.....	1		
Straits Settlements:				
Penang.....	Feb. 24-Mar. 2.....	1	1	
Singapore.....	Nov. 25-Dec. 1.....	1	1	
Do.....	Dec. 30-Mar. 23.....	4		
Tunisia:				
Tunis.....	Dec. 14-20.....	1		
Do.....	Mar. 16-Apr. 12.....	2		
Turkey in Asia:				
Bagdad.....				Present in November, 1917.
Union of South Africa:				
Cape of Good Hope State.....	Oct. 1-Dec. 31.....	28		
East London.....	Jan. 20-26.....	1		Varioloid.
Transvaal—				
Johannesburg.....	Jan. 1-31.....	4		
Venezuela:				
Maracaibo.....	Dec. 2-8.....		1	

CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER— Continued.

Reports Received from Dec. 29, 1917, to June 14, 1918—Continued.

TYPHUS FEVER.

Place.	Date.	Cases.	Deaths.	Remarks.
Algeria:				
Algiers.....	Nov. 1-Dec. 31....	2	1	
Argentina:				
Rosario.....	Dec. 1-31.....		1	
Austria-Hungary:				
Hungary.....				Nov. 26, 1917-Jan. 20, 1918: Cases, 16; deaths, 2. Jan. 21-Feb. 24, 1918: Cases, 21.
Budapest.....	Nov. 26-Jan. 20....	2		
Do.....	Jan. 21-Feb. 24....	14		
Brazil:				
Pernambuco.....	Mar. 16-31.....	1		
Rio de Janeiro.....	Oct. 28-Dec. 1....	7		
Canada:				
Ontario—				
Kingston.....	Dec. 2-8.....	3		
Quebec—				
Montreal.....	Dec. 16-22.....	2	1	
China:				
Antung.....	Dec. 3-20.....	13	1	
Do.....	Dec. 31-Mar. 30....	3	2	
Chosen (Korea):				
Seoul.....	Nov. 1-20.....	1		
Do.....	Feb. 1-28.....	3	2	
Egypt:				
Alexandria.....	Nov. 8-Dec. 28....	57	15	
Do.....	Jan. 8-Apr. 22....	1,377	310	
Cairo.....	July 23-Dec. 23....	143	74	
Port Said.....	July 30-Nov. 11....	5	5	
France:				
Marseille.....	Dec. 1-31.....		1	
Germany.....				Dec. 23, 1917-Mar. 23, 1918: Cases, 106; deaths, 9.
Berlin.....	Mar. 2-23.....	1		
Breslau District.....	Feb. 3-23.....	4		
Königsberg District.....	do.....	1		Prisoner of war.
Lorraine.....				Dec. 23, 1917-Feb. 23, 1918: Cases, 77; deaths, 4. Of these, 59 cases 1 death, in workmen's camps at Pontingen and Werningen.
Metz.....	Dec. 23-Feb. 2....	17	3	
Posen District.....	Feb. 3-23.....	7		
Great Britain:				
Belfast.....	Feb. 10-May 11....	22	3	
Dublin.....	Mar. 24-Apr. 27....	4		
Glasgow.....	Dec. 21.....	1		
Do.....	Jan. 20-May 4....	18		
Manchester.....	Dec. 2-8.....	1		
Greece:				
Arta.....	Feb. 19.....	2		
Janina.....	Feb. 14.....	110		Jan. 27, epidemic.
Saloniki.....	Nov. 11-Dec. 29....		72	
Do.....	Dec. 30-Apr. 6....		42	
Italy:				
Bagnasco.....	Mar. 18-Apr. 7....	4		Province of Cuneo.
San Remo.....	Mar. 10-16.....	2		
Japan:				
Nagasaki.....	Nov. 25-Dec. 16....	5	5	
Do.....	Jan. 7-Apr. 21....	19	8	
Java:				
East Java.....				
Surabaya.....	Dec. 17-31.....	9	1	Oct. 15-Dec. 31, 1917: Cases, 39; deaths, 7. Jan. 1-Feb. 11, 1918: Cases, 34; deaths, 7.
Do.....	Jan. 1-Feb. 11....	29	4	
Mid-Java.....				Oct. 10-Dec. 26, 1917: Cases, 63; deaths, 2. Dec. 28, 1917-Feb. 13, 1918: Cases, 24; deaths, 2.
Samarang.....	Oct. 9-Dec. 26....	20	2	
Do.....	Dec. 27-Feb. 6....	20		
West Java.....				Oct. 19-Dec. 27, 1917: Cases, 94; deaths, 17. Dec. 28, 1917-Feb. 21, 1918: Cases, 56; deaths, 1.
Batavia.....	Oct. 1-Dec. 27....	50	15	
Do.....	Dec. 28-Feb. 21....	47	2	
Lithuania.....				Dec. 30, 1917-Mar. 2, 1918: Cases, 1,878.
Mexico:				
Agua Calientes.....	Dec. 15.....		3	
Do.....	Jan. 21-May 12....		22	
Durango State—				
Guanacevi.....	Feb. 11.....			Epidemic.
Guadalajara.....	Apr. 1-30.....	2	2	
Mexico City.....	Nov. 11-Dec. 29....	476		
Do.....	Dec. 30-May 21....	848		
Newfoundland:				
St. Johns.....	Mar. 30-Apr. 5....	1	1	

CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER— Continued.

Reports Received from Dec. 29, 1917, to June 14, 1918—Continued.

TYPHUS FEVER—Continued.

Place.	Date.	Cases.	Deaths.	Remarks.
Norway:				
Bergen.....	Feb. 1-16.....	3		
Poland:				
Lodz.....	Nov. 18-Dec. 8.....	219	25	Nov. 18-Dec. 8, 1917: Cases, 2,568; deaths, 218. Dec. 23, 1917-Mar. 9, 1918: Cases, 8,403; deaths, 315.
Do.....	Feb. 10-Mar. 9.....	292	35	
Warsaw.....	Nov. 18-Dec. 8.....	1,461	141	
Do.....	Feb. 10, Mar. 9.....	2,747	331	
Portugal:				
Lisbon.....	Mar. 3-30.....	18		Feb. 21: Present.
Oporto.....	Dec. 1-31.....	23	4	
Do.....	Jan. 1-Mar. 8.....	1,811	161	
Russia:				
Archangel.....	Sept. 1-14.....	7	2	Present.
Moscow.....	Aug. 26-Oct. 6.....	49	2	
Petrograd.....	Aug. 31-Nov. 18.....	32		
Do.....	Feb. 2.....			
Vladivostok.....	Oct. 29-Nov. 4.....	12	1	
Do.....	Apr. 19-25.....	3		
Spain:				
Almeria.....	Apr. 1-15.....	1	1	Present. Province of Coruna.
Corubion.....	Apr. 11.....			
Madrid.....	Jan. 1-Mar. 31.....		2	
Sweden:				
Goteborg.....	Nov. 18-Dec. 15.....	2		
Switzerland:				
Basel.....	Jan. 6-19.....	1	1	
Zurich.....	Nov. 9-15.....	2		
Do.....	Jan. 13-19.....	2		
Tunisia:				
Tala.....	Mar. 18.....			Epidemic.
Tozer.....	do.....			Do.
Tunis.....	Nov. 30-Dec. 6.....		1	Of these, 26 in outbreak in prison.
Do.....	Feb. 9-May 3.....	46	20	
Union of South Africa:				
Cape of Good Hope State.....				Sept. 10, 1917-Mar. 17, 1918: Cases 4,444 (European, 34); deaths, 902 (European, 15).
Natal.....				Dec. 1, 1917-Mar. 17, 1918: Cases, 50; deaths, 11.

YELLOW FEVER.

Brazil:				
Bahia.....	Mar. 10-16.....	1	1	
Ecuador:				
Babahoyo.....	Feb. 1-15.....	1	1	
Guayaquil.....	Sept. 1-Nov. 30.....	5	3	
Do.....	Feb. 1-15.....	1		
Do.....	Mar. 1-31.....	12	7	
Milagro.....	Feb. 1-15.....	1	1	
Yaguachi.....	Nov. 1-30.....	1		
Guatemala:				
Retalhuleu.....	Apr. 22-May 23.....			Present. About 25 miles from Champerico, Pacific port. Disease spreading along Pacific coast.
Honduras:				
Tegucigalpa.....	Dec. 16-22.....		1	
Do.....	Jan. 6-19.....		1	